The Journal

OF THE

Jamaica Agricultural Society.

The more people do the more they can do; he who does nothing renders himself incapable of doing anything; while we are executing one work we are preparing ourselves for undertaking another.

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BOARD OF MANAGEMENT.

The usual monthly Meeting of the Board of Management of the Jamaica Agricultural Society was held at the Office of the Society, 11 North Parade, Kingston, on Thursday, 16th September, 1915, at 11.40 a.m. Present: His Excellency Sir Wm. H. Manning, K.C.M.G., C.B., (presiding), Sir Jno. Pringle, K.C.M.G., Hons. P. C. Cork, C.M.G., D. Campbell, L. J. Bertram, C.M.G., R. P. Simmonds and S. S. Stedman; Messrs. Robt. Craig, A. W. Farquharson, E. W. Muirhead, A. C. L. Martin, Conrad Watson, Rev. W. T. Graham and the Secretary, Jno. Barclay.

Apologies for absence were submitted from the Hons. George McGrath and J. R. Williams, Messrs. H. Q. Levy and Adam Roxburgh.

The Minutes of the previous Meeting having been printed and circulated, were taken as read and confirmed.

Notices of Motions.—The Rev. Mr. Graham gave notice of the following motions:—

(1) That a place be provided on the Agenda for Questions at an early stage of the Meetings of the Board.

(2) That at the next Meeting of the Board I will ask that a Special Committee of this Board be appointed to provide a proper scheme for the insurance of crops against loss by disaster.

Letter from Mr. A. W. Farquharson re his election.—Letter from Mr. A. W. Farquharson was submitted acknowledging receipt of the letter *re* his election to the Board of Management and stating that he should be glad to act, and also act as a member of the Staple and Minor Products Committee in place of Mr. Archibald Spooner, resigned.

Free Grants of Seeds.—Applications from 5 Branch Societies for grants of seeds either free or at half price, were submitted.

The Secretary said that it had been usual after a storm which had caused loss to crops—especially bananas—for grants of seeds to be made, particularly peas and beans of various kinds and vegetable seeds, so that all the open spaces between the bananas could be planted.

Mr. Stedman said he noticed that nearly all these applications were from districts that had not been anything like so hard hit as the Branches in his district of Portland. He noticed also from the reports of the Branches in Portland and most of the other Branches throughout the country, that they had determined under the present circumstances not to make any applications whatever. He thought that these applications should not be granted.

The Secretary also submitted letter from the Secretary of the West India Committee with regard to Individual Gifts. (This is published on another page of this JOURNAL.)

The Secretary said that it would be quite easy to send gifts through Agencies in London, but people here liked to send Jamaica specialities. He had communicated with Mr. Aspinall to try and see if gifts of Jamaica products for individual soldiers, sailors, and prisoners of war, could be sent in bulk through some agency in London and distributed from there. Of course those who sent the gifts would require to pay the cost.

The Secretary also submitted the following further letters from the Secretary of the West India Committee:—

13th August, 1915.

"I beg to acknowledge the receipt of your letter 1781 of the 19th ult., transmitting a Resolution of thanks to the West India Committee for their services in connection with the distribution of the War Gitts presented by your Society to our wounded soldiers and sailors and the Fleet.

This Resolution shall be laid before the next Meeting of my Executive. Meanwhile I beg to thank you very cordially for associating my name with this expression of thanks; but at the same time I feel that any assistance which I may have been able to render is infinitesimal compared with that rendrred by my staff."

There was also a letter from Mr. Aspinall *re* Pimento which he would like to read:—

13th August, 1915.

"I have a letter from Colonel Moulton-Barrett telling me that Pimento was largely used during the Crimean War as a heating factor both in the food of the soldiers during the winter and in a powdered form in their boots when employed in the trenches. Do you think that you could send me a fair quantity which I could forward to the War Office with the request that it might be given a trial, say 5 or 10lbs. wweight? Please let me know if you can do this. The experiment would be interesting."

Mr. Martin said he would be glad to send a bag of Pimento for experiment.

Swine Fever.—The Secretary said that on the 6th of September, the Instructor for S.E. St. Elizabeth, Mr. E. J. Smith, had advised him that Swine Fever was raging in some of the districts there, and he had immediately advised the Government who had sent the Government Veterinary Surgeon down to the district. He had not however, yet heard the results of his investigation.

Cassareep.—The Secretary said that a few months before he had been directed by the Board to get a sample of Cassareep from Demerara, but owing to there being no direct communication it had taken a long time for the Cassareep to arrive. It had been badly packed and the bottles were broken. He however submitted most of the contents of one bottle.

He was directed to send a sample of this to Mrs. Fray, of Spring Plain, Milk River, who was interested in putting up this product here in a marketable form to be used as sauce.

"Authorized Persons."—The Secretary submitted Return of Arrests made by the "Authorized Persons" during the Quarter ended 30th June, 1915, which he had received from the Inspector General. (See pages379, 380.)

The Secretary asked what was the position with regard to the "Authorized Persons" when a Branch became defunct. There was one Branch defunct which had several "Authorized Persons" connected with it. He was directed to advise the "Authorized Persons" that they should connect themselves to the nearest Branch Society, and also to ask the Attorney General for his opinion.

Growing of China or Dwarf Bananas.—The Secretary said that he had submitted to the Staple and Minor Products Committee a Minute with regard to this variety of bananas which was practically storm proof. The matter of growing them had been discussed when the Elders & Fyffes steamers had started. The Company had promised to take these bananas, but it was found that they did not carry as well as the Martinique Bananas. Since then, however, the fruit carrying accommodation on board these steamers had been greatly improved, and no doubt the Company had now more experience of shipping fruit taking 14 days. He did not mean to suggest that these bananas should take the place of the Martinique Bananas, but if it was possible to ship to the United Kingdom it might be prudent for each grower in Jamaica to have a small acreage to ship a certain proportion, so that in case of storm at least a small export would be kept up. He had written to the Manager of the United Fruit Company on the subject: he only brought up the matter for the sake of discussion.

Applications for Affiliation.—The Secretary again submitted application for affiliation from Wallingford District near Guys Hill, which had been held over pending enquiry by him as to whether the new Society would interfere with the membership of other Branches around. The Secretary stated that only one member of this new Society was a member of any other Branch. Affiliation was therefore granted.

Application for affiliation from a new local Society in Highgate district was submitted. This application stated that although there were Branches from 4 to 7 miles round about, only one member of the new Society had been a member of any Branch. Affiliation was granted.

Instructors Reports, etc.—The Instructors Reports and Itineraries for the month of August were submitted and directed to be circulated to the Instructors Committee as usual.

The Secretary said he had a report to make from the Instructors Committee: Mr. C. T. Watts who had been appointed on probation as an Assistant to Mr. W. Cradwick in St. Mary, was not found likely to make a good all round Instructor, although he was very capable in some directions, especially in work of a mechanical nature. The Instructors Committee had therefore, after due consideration, given him three months notice from the 1st of September and were allowing Mr. Watts to leave at an early date for New York,as it was his intention (if his father gave him the necessary permission) to proceed to the United Kingdom to find employment in some service of the war.

Statement of Accounts.—Statement of Accounts was tabled.

Mr. Stedman asked that the Statement of Accounts be tabled early at the Meetings in future, so that it could be passed around. This was agreed to.

New Members.—The following new members were elected:—

George Barnard,	Park Estate, Choiseul, St. Lucia.
C. Deacon,	Prospect Dennery, St. Lucia.
Verner Green,	Courts Office, Montego Bay.
Eustace Ramsey,	Montego Bay.
V. J. Rennie,	Cross Roads.

The meeting adjourned until 23rd October, 1915.

RETURN OF ARRESTS MADE BY "AUTHORIZED PERSONS" UNDER THE PRAEDIAL LARCENY LAW, DURING THE QUARTER ENDED 30TH JUNE, 1915.

Parish.	Names of "Authorized Persons" who prosecuted.	Name of Defendant.	Offence for which prosecuted.	Remarks.
Kingston	Nil	Nil	Nil	Nil
St. Andrew	William Bonfield	Charles Thomas	Unlawful possession of Corn	4 months H. L. D. P.
do	Amos J. Smith	Melbourne N. Notice	,, ,, ,, Cocoa Pods	Sent to Industrial School
St. Thomas	Beckford Henry	Charles Watson	,, ,, ,, Bananas & Plantains	60 days H. L. D. P.
do	John Nathan	Estella Campbell	,, ,, ,, Bananas & Cocoa	Bound over
Portland	Joseph Redwood	Henry Wilson	Praedial Larceny of Bananas	do
do	James Reid	Claudius Neufville	Unlawful possession of Yam heads	3 weeks H. L. D. P.
do	Walter Beckford	George McFarlane	,, ,, ,, Coconuts	Discharged
do	Adam Samuels	Alexander Price	,, ,, ,, Bananas	1 day imprisonment
do	James Burgess	Justin Anderson	,, ,, ,, Cocoa pods	Discharged
do	Eustace Jackson	William Smith	,, ,, ,, do	do
do	Charles Brown	Gangadia (Coolie)	,, ,, ,, do	7 days H. L. Lock-up
do	Adam Samuels	Samuel Spence	,, ,, ,, Yam heads	Bailed
do	Adam Samuels	Louisa Barnes	,, ,, ,, do	Bailed
do	David Moodie	Rebecca Hall	,, ,, ,, Cocoa pods	Discharged
St. Mary	Robert Forsythe	Advira Williams	,, ,, ,, Yams	48 hours H. L. G. P.
do	Robert Forsythe	Georgina Ellis	,, ,, ,, do	do
do	Robert Forsythe	William N. Thomas	,, ,, ,, Bananas	7 days H. L. Lock-up
do	Ernest Fraser	James Brown	,, ,, ,, Coconuts	3 months H. L. D. P.
do	Ernest Fraser	Robert Williams	,, ,, ,, do	Discharged
do	Euphrates Walker	Uriah Livingston	,, ,, ,, Cocoa pods	do
do	Euphrates Walker	John Wallace	,, ,, ,, do	do
do	George Espute	Enos Roper	,, ,, ,, do	7 days H. L. Lock-up
do	Joseph Stewart	Emma Wellesley	Unlawful possession of Cocoa pods	Discharged
do	David Oliver	George Hendricks	,, ,, ,, do	do
do	Charles Morrison	William Heron	,, ,, ,, do	7 days H. L. Lock-up
do	Jacob Pownal	William Cookhorn	,, ,, ,, Yams	4 months H. L. D. P.

RETURN OF ARRESTS MADE BY "AUTHORIZED PERSONS" UNDER THE PRÆDIAL LARCENY LAW, DURING THE QUARTER ENDING 20TH JUN&, 1915.

Parish.	Names of "Auuthorized Persons" who prosecuted.	Name of Defendant.	Offence for which prosecuted.	Remarks.
St. Mary	Jacob Pownal	Rose Ann Smikle	Unlawful possession of Yams	Discharged
do	Jacob Pownal	Clarence Clunis	,, ,, ,, Potatoes	7 days H. L. Lock-up
do	*Ashton Simmonds*	Princess Robinson	,, ,, ,, Cocoa pods	5 moths H. L. G. P.
do	Charles Roberts	Lillian Gobern	,, ,, ,, do	Discharged
do	Charles Thomas	Esau Scarlett	,, ,, ,, do	3 strokes with tamarind switches
do	Elisha Harris	Levi Robinson	,, ,, ,, do	30 days H. L. D. P.
do	Joseph Danvers	*Lancelot* Daley	,, ,, ,, Cocoa	Discharged
do	Amos Duncan	Jeremiah Hunter	,, ,, ,, Cocoa	5 months H. L. D. P.
do	Joseph Duncan	Alfred Livingston	,, ,, ,, Cocoa pods	Discharged
do	James Alford	Richard Spencer	,, ,, ,, do	do
do	Nathaniel Grant	Eustace Byfield	,, ,, ,, Cured cocoa	7 days H. L. Lock-up
do	Alexander Davidson	William Heron	,, ,, ,, Cocoa pods	Discharged
do	Charles G. Evans	Lawrence Miller	,, ,, ,, Bananas	30 days H. L. D. P.
Saint Ann	Nil	Nil	,, Nil	Nil
Trelawny	Solomon Marrett	Sophia Vernon	Unlawful possession of Sugar Canes	7 days H. L. Lock-up
St. James	Nil	Nil	Nil	Nil
Hanover	Theophilus Hale	John Bowen	Unlawful possession of sugar Canes	14 days H. L. Lock-up
Westmoreland	Nil	Nil	Nil	Nil
St. Elizabeth	Walter Ford	Edward Powell	Unlawful possession of Cassava	6 strokes with Tamarind switches
Manchester	John Thompson	Matilda Walters	Unlawful possession of Potatoes & Yams	6 weeks H. L. D. P.
Clarendon	Charles Douglas	Abigail Jackson	,, ,, ,, Bananas	Discharged
do	Harper Tulloch	William Heath	,, ,, ,, do	Imprisoned until the rising of the Court
St. Catherine	Thomas G. M. Stewart	Arthur Masters	,, ,, ,, Bananas, &c	1 month H. L. G. P.
do	do	Richard Butler	,, ,, ,, do	do
do	do	Daniel Powell	,, ,, ,, do	do
do	do	George Stewart	,, ,, ,, Sugar canes	Sent to Industrial School
do	David Herah	Emanuel Prendist	,, ,, ,, Cocoes and Cassavas	1 month H. L. D. P.

Inspector General's Office,
Kingston, August, 1915.

A. E. KERSHAW, Lt.-Col.,
Inspector General of Police.

THE NEED OF CHEAPER LIME.

We quote the following from a pamphlet sent us from the United States, and as it contains good knowledge, we publish extracts from it. We have mentioned in previous JOURNALS about the machines that can be got for crushing limestone into fine white lime—a cheap and effective way of adding lime to the soil if several would co-operate to get a machine:—

"A limestone country will always be a rich country if the farmer can get the lime cheap and put it on his soil. With the lime he can grow legumes. The legumes enrich the land and feed his stock." (In Jamaica limestone is plentiful, yet lime, an essential for the land, is very expensive.—ED.)

"While the science of making commercial fertilizers is comparatively new, the use of lime to increase yields is almost as old as civilization itself. The farmers of ancient China, Greece, Rome and Egypt found that it kept their soil sweet and productive.

In England, where the soil is much of limestone formation, and in the limestone States of America, constant applications of lime are needed to keep the soil from souring. Years ago the land in the United States (just as in Jamaica—ED.) was rich. There was virgin soil, rich in humus, fertile and productive. If one field was poor it was allowed to stand idle. Farmers went over to another field. The land was cropped year after year. The same plant foods were taken out. No one bothered to return them. (Just the same as here.—ED.) Then population increased; farm lands became scarcer; no longer was it possible for farmers to move to more fertile fields. (Just about the same as here.—ED.) It became necessary to get yields from the lands and still keep the fertility up. Then the science of soil fertility was developed as it had been developed in Japan, China and the countries of Europe. Men learned the number of pounds of plant food that each crop demands. They found that there were *ten* elements that the crops take out of the soil. Four only, however, were subject to material loss. The rest are usually present in abundance. These four elements are: Nitrogen, phosphorus, potash and lime.

On some soils and for some crops, it became necessary to supply these plant foods, where exacting crops were grown year after year and the same set of plant foods extracted.

But on many soils, especially clays, there is enough phosphorus and potash to meet the crops' demands if the soil is well and deeply cultivated and drained. This leaves only lime and nitrogen that the cultivator must supply. Nitrogen is the most necessary, and yet the most expensive of all the plant foods. To get cheaper nitrogen was a problem at one time. Then a scientist noticed that little knots, or nodules, formed on the roots of certain plants, such as clover, alfalfa and all peas and beans—known as leguminous crops or legumes. Hitherto these lumps had been thought to be a fungus disease, but he found that they contained 8% nitrogen. Experiments showed that these legume crops had the power to draw nitrogen out of the air and store it in the soil; that these little nodules that develop on the roots are really little nitrogen factories. An acre of Cowpeas (Overlook Beans, Bengal Beans or Jerusalem Peas—ED.) or any other legume crop, meant millions of these little nitrogen factories at work enriching the soil without cost. So it was found that *legumes bring free nitrogen* to the soil—nitrogen, the most expensive and scarcest

of all the plant foods. But legumes do not like sour, acid land. The little nitrogen nodules that feed the plant and enrich the soil cannot grow unless the soil is made sweet and alkaline with lime. On lands where generous applications of lime are made, these crops grow and thrive.

Several reasons are known why an ample supply of carbonate of lime is of special value in cultivated soils: One is, that it is required for plant food. Another is, that it neutralizes soil acids, which would be injurious to plant growth. A third reason is, that it is essential to the activities of many kinds of useful bacteria, including those which gather nitrogen from the air independently of legumes. A fourth reason is, that carbonate of lime plays an important part in the mechanical condition of a soil. In particular, its effect is to granulate the soil so that if heavy, it becomes more open and porus, and loses much of its sticky nature. On the other hand, granulation may improve a too-open soil, which is made more retentive of both water and plant food by the addition of lime.

All cultivated land becomes acid in time and especially when much vegetation is returned to the soil (as in Banana cultivations, Ed.) Humus, organic matter decays; acids are produced; Carbonic acid is given off by the plant roots and washed into the soil. Organic nitrogen and ammonia are converted into acid forms. Few soils possess enough lime to keep the soil sweet. Even where lime rock is abundant we find the soil acid, because, before it can become available lime-rock must be burned in a kiln or be finely pulverized and mixed with the soil. The rain does wash the limestone and dissolve it, but to such a small extent that it is not appreciable to crops. (Our red soils though on white limestone are still poor in lime.—Ed.)

Big yields of crops cannot come from acid land. Drainage can do a lot, but lime (used with discretion—Ed.) will quickly restore it to its former productiveness. Lime enables you to grow Cowpeas, etc., better and so get free nitrogen. Lime is of itself a necessary plant food; lime makes sour land sweet and productive; lime improves the mechanical condition of clayey and sandy soils alike; lime does all of these things—no one of which any other element can do.

There are two distinctly different classes of lime. One is caustic lime, such as fresh-burned, or fresh-slacked lime; the other is the natural form, such as limestone and marl. But both quicklime and fresh-slacked lime are caustic lime, which tend to eat or burn all organic matter too quickly. If you ever let burnt lime or fresh-slaked lime get on your skin you know how it burns. Put burnt lime on your soil, and there is danger of its burning up quickly the valuable humus which is so necessary to make the land retain moisture and plant food. It is good when a quick and vigorous effect is wanted. Burnt lime, if not lightly applied, may burn up the valuable humus, and it also may liberate the nitrogen in the soil too quickly, more than the plants can utilise at once, causing a great waste of this most valuable plant food.

Ground limestone is a form of lime now much recommended by good authorities. Dr. Hopkins, in his Circular No. 110, from the Agricultural Experiment Station, Urbane, Illinois, states:—

"Fine ground limestone will be both the best and the most economical form of lime to use wherever it can be most easily obtained. If caustic lime is used we should make additional provision to main-

tain the humus in the soil. This means by heavy applications of manure or green dressings. The use of ground limestone to correct acidity and increase the fixation of atmospheric nitrogen is certainly altogether legitimate and commendable, but to use burnt lime to force the soil to give up more plant food that it would otherwise furnish, thus producing an increase in the first few crops, but ultimately leaving the soil more impoverished than before the lime was applied, is not thought to be advisable or profitable in the long run, unless the soil contains comparatively large stores of available plant food and abundant organic matter, or unless the burnt lime is required as a soil disinfectant as in diseases of roots.

* * * * *

Burnt lime is a most expensive article in Jamaica, yet lime rock is nearly everywhere in evidence; at any rate it is never far away from any estate. The idea of a lime crushing machine to be used by estates in cooperation is something to be thought over seriously. The application of lime dust to nearly all of our lands would be most beneficial, especially now that so many estates are growing Cowpeas, Overlook Beans, etc., for green dressings.

* * * * *

In support of the above, we quote the following from the *Rural New Yorker*, May 15th, 1915, (U.S.A.):—

THE LIMESTONE BUSINESS.—One of the most remarkable things connected with American farming is the wonderful increase in the use of lime during the past few years. The practice of liming has spread wherever it was tried with the result that it became a general proposition. Practically every piece of land that has been under cultivation for 50 years requires a dressing of lime. When people began to understand this fact, there was a rush to learn about its different forms and methods. We now have a dozen forms of lime, each one adapted to particular conditions, and probably the greatest development of all has been in the preparation and use of ground limestone. We do not take up here a discussion of these different forms of lime and their special needs. On a very sour soil or on the heavier clays we should prefer a quicker lime than ground limestone, but without question the use of the latter has spread very rapidly over the limestone sections, and in order to supply the material properly, mills or crushers have been devised for preparing the limestone. Some years ago this limestone crushing was largely confined to the localities where limestone was abundant. The lime was crushed and then hauled out to the farm. This was because it was thought that large and expensive machines were needed to do the crushing and these of course, centralized the industry. Smaller and still powerful machines are now made. They are portable and can be hauled about from place to place, so that in any locality where a ledge of limestone can be exposed, these smaller mills can be made useful. It is remarkable how this business of crushing limestone with the smaller mill has developed. Hundreds of plants are at work throughout the country In some cases they are operated on much the same principles as thrashing machines or sawing outfits, as they travel from farm to farm crushing up a year's supply of Limestone, about as the sawyer would cut up the year's fuel.

RICE BRAN.

A considerable amount of rice bran is available in the parish of Westmoreland as a by-product when the rice grown there is milled. It is used in Westmoreland along with corn for feeding mules, and, it is stated, with good results. When corn was selling at 5/- per bushel—at which price it becomes a very expensive food—we got some of this rice bran from Mr. Walter Wolliscroft of Savanna-la-Mar, and had it experimented with in the feeding of ponies, milch cows, calves and fowls. The experiment has gone on for 3 months and after a slight falling away before the stock would eat all the proportion of rice bran given them, until they got accustomed to it, there has been no difference in results against wheat bran. We have no local chemical analysis of this rice bran, and it is possible our product may not be quite the same as rice bran elsewhere; but on reference to an analysis of this product made in Mauritius, we should not expect that it would vary very much in results.

In feeding horses with rice bran, substitute the same weight—not measure—as the corn superseded. A quart of corn weighs 1 lb. 14 ozs.; a quart of rice bran 1 lb., so it does not do to feed by measure, unless the weight is taken into account.

In feeding cows, give one-fifth more of rice bran in place of wheat bran, add salt in order to induce the beasts to take it. Some beasts accustomed to certain foods will not readily take to others.

It will be interesting to those who are interested in food for stock to peruse the following analyses of common foodstuffs for stock as made by the Director of Agriculture in Mauritius which we take from the West India Circular:—

	Digestible Fibre or Cellulose.	Digestible Fats or Oils	Digestible Proteins or Albuminoids	Digestible non-albuminoids Carbohydrates.	Albuminoid ratio.	Starch equivalent
Rice Bran ..	6.2	6.1	7.8	33.5	6.9	72
Wheat Bran ..	6.8	2.6	10.0	35.0	4.7	71
Maize Seeds (corn) ..	1.1	4.0	8.9	45.4	6.0	75
Oats, grains ..	7.2	4.3	9.3	40.7	6.2	79
Rice (paddy) ..	7.3	1.3	6.3	41.0	8.1	66
Gram (peas) ..	9.0	3.3	16.2	35.5	3.2	89
Poonac (coconut meal) ..	3.6	13.9	12.4	24.0	4.9	60
Cotton seed meal not decort.	16.7	4.0	17.1	17.6	2.5	83
Cotton seed meal decort. ..	4.5	8.2	43.2	15.1	.9	138
Molascuit ..	9.2	—	1.5	38.5	31.8	51
Molasses ..	—	—	1.4	50.2	35.9	53
Cane Tops (whole) ..	4.8	1.8	.8	7.8	20.9	19
Grasses-averages	6.0	1.2	1.3	8.5	13.3	20

Rice bran at the price it can be supplied can be fed *partly* in place of corn and perhaps also wholly in place of wheat bran, with decided economy. It is worth trying.

UTILIZATION OF WASTE.

The question of the utilization of waste animal matter, so extremely prodigal here, is one which merits the careful attention of all interested in the Island's agricultural development, and affords a wide field for the energies of the individual whose scientific training and mental equipment is such as to enable him to intelligently grasp and handle the problem presented.

As for example, bones: How very few people have ever considered the potential value, from the agricultural point of view, of the osseous rejections of our daily dietary. In northern urban or even remote country neighbourhoods the bone "merchant" is an established feature in the community, and the thrifty housewife recognises the price he pays for her weekly collection of bones as something not altogether negligable in her budget. Yet here they are allowed to decorate the landscape, or offend the eyesight, if not the olfactory nerve, in the too obstrusive "middin" heap. It is true that enterprising individuals from time to time have found an outlet for their business energies in buying and shipping bones to the United States where they are used up in the preparation of phosphate of lime or its compounds, eventually to find their way back to Jamaica worked into artificial fertilizers for which a fancy price is paid per ton. The question which naturally arises in the mind of any thinking individual is —Why are these bones (*inter alia*) not prepared on the spot and returned to the soil from which they were originally built up, to replenish in some measure the enormous depletion which is continuously going on in the raising of sugar cane, bananas, coffee, cocoa, as well as ground provisions. Providence it cannot be expected will always act as the fairy godmother to the improvident planter, and the time will inevitably come—if it has not already arrived—when overflowing rivers or inundations may be expected to do naturally what in other countries has to be done artificially. It therefore behoves us, if we are to be considered agriculturally as a progressive and enlightened community, to utilize to the fullest possible extent our disregarded soil regenerators.

To return to our bones, if not our 'mutton,' the questions arise, what supply is available and at what price can they be obtained? and further, what would be he cost of reducing them to a sufficient degree of mechanical fineness to enable them to be utilized for plant food?

From available statistics, it would appear that the dressed meat passing from the Kingston's Slaughter House is approximately 400,000 lbs. per month yielding at a rough guess, say 480 tons of bones per annum. Assuming that one half supplements the dietary scale of our canine pets, apart from what is consumed by these nocturnal pests which prowl around and apparently live on the *disjectæ membræ* of the kitchen, we should have available, in Kingston alone, 240 tons of raw bone per annum for conversion into commercial fertilizers. Figures are lacking as to the quantity which might be obtained from the country, but solving the problem by the rule of three, it would work out as follows:—If Kingston and neighbourhood with a popula-

tion of 70,000 provides 240 tons, how much would be obtained from 700,000; the answer would be 2,400 tons. Adding this to the figures for Kingston, we have a total of 2,640 tons. In view, however, of the differences in the standard of living as between urban and rural districts it would be safer to halve the figures for the country. This being done we would have approximately 1,500 tons of available bone, a quantity which if collectable would provide quite a respectable volume for a small factory to hand.e.

In addition to this, there are other available sources of supply and material used in the production of fertilizers, such as ammonia in the bye-products of the manufacture of gas, and the blood and waste animal tissue from the Slaughter House convertible into dried blood and azotin. In the case of the first mentioned article the necessary plant would have to be installed for the recovery of the ammonia from the residual liquor, and its conversion into the sulphate form. But it is reasonable to suppose that the progressive body of gentlemen who manage the affairs of the Kingston General Commissioners, would not be averse to investing the necessary capital to recover these waste products provided it could be demonstrated to them that the venture would be a paying proposition.

According to the Annual Report of the Kingston General Commissioners, 26¾ million cubic feet of gas are produced each year for lighting and power purposes. The residual ammoniacal liquors obtained in the maufacture of this quantity of gas contain approximately 25 lbs. of coal carbonized yielding on a consumption of 2,000 tons of coal, 25 tons of brown sulphate of ammonia containing approximately 18 per cent. of nitrogen. Next to nitrate of soda, sulphate of ammonia is one of the best forms of nitrogen for fertilizing purposes, and is particularly valuable on clay or clay loam soils.

At the present price in the United States of sulphate of ammonia, the revenue the Kingston General Commissioners would obtain from this source would be 25 tons at £12 per ton of 2,000 lbs. yielding £300. Labour costs, it should be noted, are not taken into consideration here, as the writer has no information on the matter.

With regard to the quantity of blood collectable from the Slaughter House, this may be conservatively estimated at 2,240 gallons per month, or say 36 tons of dried blood per annum.

Waste animal tissue available for conversion into azotin about 100 tons per annum, leaving out of the reckoning any carcases which might be condemned as unfit for human consumption. There are also other wastes from the abattoir which if dried could be used for filler, if not for other purposes. The point which need scarcely be emphasized is that nothing in the Slaughter House need be wasted if means are provided for its utilization.

Striking a balance of our waste products, as roughly sketched out in the foregoing, we are losing materials of agricultural value to the following extent in Kingston alone:—

Bones	240 tons
Ammonia	25 „
Dried blood and Azotin	130 „
	395 tons.

Say 400 tons at an average value of £5 per ton, the actual loss in round figures is in the neighbourhood of £2,000 per annum.

Bones within the writer's recollection have been purchased here for shipment at 25/- per ton. The expense of grinding may be estimated at from 10/- to 18/- per ton producing an article which has a commercial value of about £5 10/- per 2,000 lbs. The agricultural value may be gathered from the fact that good raw bone free from meat and excess of fat, contains on the average 22% phosphoric acid and 4% of nitrogen. "The nature and composition of animal bone is such as to make it a valuable source of phosphoric acid, and while it is ueed largely with nitrogenous and potassic material in the manufacture of artificial manures, its best use is perhaps in fine ground form, particularly for soil improvement and for slow growing crops." (Voorhees).

There are other sources of waste which will be obvious to anyone who has given a moment of thought to the matter, e.g., hair and other wastes from tanneries, leather cuttings and parings from shoe and harness makers, fish bones, offal and household waste generally, which at present finds its way to the city dumping ground.

W. KIRKPATRICK.

Kingston.

———:o:———

NAPTHALINE AND WEEVILS.

How is it a correspondent asks that there is so much talk now of Napthalene being used to keep weevils from attacking corn? It is nothing new. I read pretty much what you are stating now in the JOURNAL, away back in your early JOURNALS.

That is so. But the bulk of the readers of the JOURNAL are new since then, and there is far more interest now being taken in trying to do things. People have awakened to the fact that agriculture is a business and that they have to know as much as they possibly can about their business. If it has taken years to awaken them to this, no matter; it is actually happening.

We find in the JOURNAL for *January, 1899*, the following:—

DEATH TO WEEVILS.—For the destruction of weevils among corn and peas bi-sulphide of carbon has been found most effectual but on account of its highly inflammable and poisonous nature many who have not large quantities of corn and peas to store would rather risk the loss by weevils than use it. A simpler and very satisfactory method is the use of ordinary naphthalene powder, which can be used both to drive out the insects already present and to prevent others coming in. It is cheap, and there is no danger in its use. It may even be swallowed in quantity without injurious effects. The powder is best placed at the bottom of the grain for unlike bi-sulphide of carbon which is heavier than air and sinks, the fumes of naphthalene ascend. This is how to apply it. Take a bamboo about 1½in. in diameter and long enough to reach from the top to the bottom of the bulk of grain. Punch the joints out of the bamboo, so as to be able to pass a stick through the bamboo, from one end to the other. Have the stick made to fit the cavity in the bamboo. Pass the bamboo, with the stick in it, down through the bulk of grain from the top to the bottom. Withdraw the stick and drop into the top of the bamboo about half a teaspoon of naphthalene powder. The bamboo can then be drawn out as the naphthalene is safe at the bottom of the bulk of grain. If the bulks are

large this should be done once to every *10ft.* square of the bulk. Repeat the application every fifteen or twenty days as the powder evaporates. The weevils that can leave the grain will do so, and those that cannot leave are killed by the odour of the napthalene. We do not believe that naphthalene thus used can cause any injury whatever to grain. For seed purposes the germinating powers appear not to be affected in the least. For marketable grain the color is not affected, and the odour will leave in a short time if fresh naphthalene is not applied to it. The quantity of powder used is infinitely small in proportion to the quantity of grain, and the powder is entirely destroyed by evaporation, so that for food purposes the effect is nil

We were actually using this method then, having picked up the idea from somewhere else no doubt, and so we wrote about it.

"*I am pleased to inform you that corn stored up by me on the 25th of March* 1915 (with Napthelene as directed by you) was still good and free of weevils on the 25th of June, 1915."

W. A. S.

Mile Gully,
27/9/15.

———:o:———

MAKE THE ACRES WORK.

Agriculture is not a matter of how many acres a man has, or even of the quality of the land. Some of the very best holdings in our Small Holdings Competition, for prizes, were in the driest parts and contained poor and rocky soil. There was one holding consisting of steep rocky and gritty hillsides, and the owner had patiently terraced these, so that each hillside was a series of long platforms or steps and stairs about 3ft. broad. The plants were all therefore growing on a flat, and the owner could walk along these terraces without always the effort of hanging on to a hillside.

One man too with 5 acres gets two and three times more out of his acres than his immediate neighbour with 10 acres of the same land. At least two things are required to get the most out of land, these are, for the owner to make himself an efficient farmer and make his land also efficient to bear heavy crops. He can make himself efficient by minding his business, putting in at least 5 days steady work a week, never putting off necessary work to another day and never trusting to luck; by finding out why certain parts of the land do not bear well, why certain cocoa or coffee trees do not bear well, and if they were found incurably lazy, get them superseded by better plants; by discussing different ways of working with his neighbours, by attending Agricultural Meetings determined to learn all that is possible there, by reading about his business and trying to learn all that he can from books; by using good seed, by keeping stock and caring the animals well and saving the manure from them. Then he can make his land efficient by cultivating it thoroughly, by trenching it where the soil needs it (especially on hillsides), by digging in manure from rabbits, pigs, goats, donkeys, mules, horses, cows, any or all, and from the house and field (wood-ashes especially should not be wasted) by mulching the driest land with grass and bush, by weeding the crops before they get a set-back through the growth of weeds. Make the acres do their duty.

SOME HINTS ON CURING COCOA.

The following suggestions for curing cacao and obtaining nice round beans with fine aroma and good break are given as an appendix to the Report of the Trinidad Cacao Commission.

When the pods are broken in the fields the entire contents, including the placenta or guts, must be taken to the curing house and put to sweet along witht the cacao, and only removed when the cacao is put into the drying houses. The sweating ought to be from 3 to 4 days in the box, then turned over into another for two days before being turned out into the drying houses. Of course, when drying space is required, sweating for shorter periods may become necessary.

When the cacao is in the sweating boxes it ought to be well covered up with banana leaves at each sweating, and these leaves ought not to be thrown away, but used over and over again along with fresh leaves as the curing of the crop progresses and only be turned into manure when the crop is finished. Removable covers to the sweating boxes causes quicker fermentation. The placenta or guts make a splendid manure, and ought to be put in the manure heap and used when planting out supplies of cacao, cedar or any other trees, as it makes them grow rapidly. Placenta when thoroughly dried is saleable and would pay to export could it be pressed into bales so as to economise in freight and cost of bagging. The foregoing suggestions will undoubtedly assist in improving the quality of the cacao cured, but of course in rainy weather discretion must be used as to the period of sweating as on no account must black cacao be turned out. Claying of cacao ought to be avoided as much as possible and when necessary only sufficient to give a uniform colour ought to be used.

From "The West India Committee Circular," May 4th, 1916.

———:o:———

SAVE YOUR LAND.

Soil Washing.—The greatest waste in Jamaica—among many forms—is what few think of, and we do not suppose people in towns ever give it a thought. It is the washing of soil, of good land, into the rivers and gullies and then into the sea.

People will quarrel and go to court over an inch of land *along* their lines or boundaries, and yet view with equanimity the heavy rains washing away inches deep of soil from the *surface* of their land, wherever it is bare and not drained.

After the recent heavy rainss we noticed on some hillside cultiva tions, not trenched, little gullies all over, some plants washed bare or washed out, and at the foot of the hill large banks of soft soil which had been washed down; tons of good earth had probably already been washed into the stream; then the rains stopped and left the big bank of good earth on the bank of the stream; an hour or two more of heavy rains and this would have gone, to be replaced by another bank of soil washed down.

Land costs money; at this particular place the land cost small settlers £5 per acre. There were acres of it, and that the best of it being washed away during the heavy rains.

We saw another piece of land, very steep, but thoroughly trenched; every chain had a 2ft. deep trench across the hillside; every trench was nearly up to the top with soft soil washed into it, but there was

no more in the bottom trenches than in the top ones; there was no bank of earth heaped up at the foot of the hill, practically none had been washed away.

When the rain was over the trenches would be cleaned out and the nice earth flung—not on the edges of the trenches—but all over the land.

The owner of this particular land had unfortunately just cleaned out his bananas in order to give them a last forking for the season, and he had failed to leave the weedings in a long line between the rows which also would have helped to prevent wash; the weeds were in scattered heaps.

Such rains (of August and September) were of course unexpected. It is good to have the land covered when the heavy seasons rains ought to come. Green cover crops are a help in this way. In heavily shaded places bananas, with cocoa or coffee on, however, cowpeas and other crops for green dressings will not grow in heavy shade; we have not yet found one legume that will *start* in the shade, although some will grow in the shade of bananas if started when these are young and open. In such cases (hillsides) the weedings should rather be kept in long lines, rather than as is commonly done, in heaps.

Trenches or drains should be put in *across* every cultivated hillside, no matter the kind of cultivation.

Terracing.—On steep hillsides, the terrace or platform system of working can be adopted with very great advantage. Thus the cultivator can work his field with greater facility and less exertion, as the outside of every platform or terrace is a footpath so that he does not need to hang on to the hillside in going up and down, but walk easily along; the plants instead of having their roots exposed on the lower side when they are only growing with half a root system—as is usually the case with bananas, and partially the case with cocoa, less so with coffee but still to some extent—are growing on a flat; no trenches are required, the terrace does the drainage and catches all the wash; the terrace should always be tilted towards the hill not sloped with the hill; the washings can easily be cleared off and spread on the land.

The beginning of this system is sometimes noticed in the cultivation of yams on hillsides. Each yam is on a square platform or terrace; this platform should, however, be carried right along the hill, the yam hills being placed close in the line and wider between the rows. For bananas this is, we feel, *the* system for steep hillsides: the cocoa or coffee can then be planted very easily towards the inside of the platform against the hill. It is easy clearing off the earth after heavy rains from around the cocoa and widening the terrace if required.

This is not in any way a "discovery." It is not our idea. We read years ago of the wonderful terracing system on the mountainsides in lands peopled by what we call "ancients" ;that is people who cultivated (a great deal better than we do now), thousands of years ago. Not only that but these "ancients" had the most wonderful irrigation systems and irrigated the driest and most arid hillsides.

In Italy at the present day the lime and orange trees are grown on terraces along rocky hillsides.

In the Canary Islands the "Dwarf" bananas that are so much exported to the United Kingdom are grown on terraced hilsides which are irrigated.

We have had this idea in mind for Jamaica for years and have spoken about it for years but have not had it thoroughly tested; indeed only have seen the plan carried out in a "sort of way."

It is a plan, however, that is now written about for the purpose of criticism before anyone adopts it.

:o:

CORN.

Mr. Ross, of the Seafield Branch in St. Catherine, has not been in the past a corn grower; and after a lecture on the subject by the Instructor for St. Catherine in the early part of the year, felt rather sceptical when the Instructor said he did not see why 50 to 60 bushels of corn per acre could not be produced in these parts with good cultivation. Mr. Ross determined to try his hand at growing corn from selected seed. He planted 6 square chains experimenting by planting 1, 2 and 3 seeds to the hole about 4ft. apart. The returns actually obtained were 15½ bushels of grain, but the grower estimates that between himself, his family, and his friends, there was consumed about 5 bushels in the year. In several parts the young corn was eaten by worms and was not replanted. This grower says the ears were large and in some instances had 4 to the stalk. The sample of grain sent us was certainly very fine. Therefore from 6-10ths of an acre, 1-10th more than half an acre, there was a yield of 20 bushels equal to36 bushels to the acre. This is getting near to what the average yield should be.

:o:

YIELD OF CORN.

The average yield of corn in Jamaica is an unknown quantity. It has not been possible to get figures from small settlers in past years, because the family begin to live on the corn from its milk stage on, so that what is finally shelled out as grain does not represent the total yield at all.

Although there have always been a few, especially in St. Elizabeth, who grow corn on a fairly large scale (for Jamaica) it is only very recently that the larger estate owners have begun to grow corn on a field scale more generally, in different parishes. We have heard of a crop of 2,000 bushels. One planter grew corn one year at 10d. a bushel, another at 1/-. Between patchy soil, damage by a severe wind in June, and finally the later planting laid low by the storm of August, our corn this year cost 2/-, with a large quantity of small nubbins from stalks damaged by rain and wind, which are not shelled out and will be fed as they are to pigs and fowls. Figures that may be depended upon as showing what may be done by ordinary good cultivation are from small areas.

There have been local Corn Growing Competitions held where yields have been obtained at the rate of 33¼ to 102 bushels per acre. One of these Competitions was in Westmoreland, the 1st. prize plot giving at the rate of 102 bushels 26 quarts, and in the other Competition in Clarendon the 1st. prize yield was at the rate of 99½ bushels per acre.

Yet some people think that 25 bushels per acre would be a large yield. On the contrary it is a very small yield even on ordinary land and by ordinary cultivation. By ordinary, we mean not land carefully selected as good corn land, as we would choose good banana land, and the soil prepared only by forking holes—not ploughing or

forking the whole land through, and refining, and cross ploughing and harrowing, and so so, which methods are not often done in Jamaica although they should be.

If very ordinary cultivation can give 25 bushels per acre, what would intensive cultivation give? As a matter of fact, the average yield of corn here on fair land with ordinary cultivation should be not less than 50 bushels per acre.

It is usual to plant corn at a distance apart from 3ft. square up to 5 x 3, and to allow 3 stalks to grow in each hole; 4 good and 6 ordinary cobs give a quart.

Then 3 x 3 gives 4,840 holes equal 14,520 cobs, equal 2,420 quarts, equal 75 bushels; 3½ x 3½ gives 3,556 holes, equal 10,668 cobs, equal 1,778 quarts, equal 55 bushels; 5 x 3 gives 2,904 holes, equal 8,712 cobs, equal 1,452 quarts, equal 45 bushels; 4 x 4 gives 2,722 holes, equal 8,166 cobs, equal 1,361 quarts, equal 42 bushels.

It is not to be inferred from these figures that the closer planting results in the larger yield. A planter has to find the best distance for his particular soil and climate himself. Then our seed in Jamaica is so mixed with different varieties that some grow very tall by nature, others shorter, and there are varieties that grow short and stocky with the cob borne low down, and a little of this "breed" shows occasionally in some corn we see. As a general rule, however, our corn now is a tall-growing leafy corn, and if the soil is fertile 3 x 3 is too close and would result in spindly stalks and poor cobs, 4 x 3 or 4 x 4 are good distances in general.

In the United States which is the premier corn growing country, 3½ x 3½ each way is a usual distance, so that ploughs and cultivators can be run both ways.

In the Clarendon Competition the best yield (99¼ bushels per acre) resulted from planting 5 x 4, 4 to 6 grains in the holes.

Taking corn planted at 3½ x 3½ as an average, 3 stalks to a hole, 1 cob to a stalk, there should be a yield of 55 bushels to the acre.

———:o:———

PLANTING CORN.

I am afraid our friend (the planter mentioned in the June JOURNAL page 239) made a mistake some where. In April of this year I wanted to plant some corn and I wondered how I would manage with pests till I remembered something about woodashes mentioned in a JOURNAL of some time past. Finding this, I steeped 7 quarts and pint of corn in the woodashes mixture for 12 hours and planted after. My great pleasure is that nearly every grain grew well and has borne lovely. A neighbour of mine, not 10 chains apart planted without steeping his corn, and his experiences was that mostly every grain was pulled.

SMALL SETTLER.

Mount Charles,
St. Andrew.

HOW I GROW YAMS.

(By Walter Greville Taylor, Kempshot, Lucea P.O.)

I have been asked to give an account of how I plant yams and make such a success of it, and I do so not because I have superior knowledge to the hundreds of other growers in Hanover, but because I know that there are many who would do better if they had the experience of others like myself who have, through failure and losses and successes arrived at methods that stand us in good stead.

To begin with I own the lands I cultivate and it might interest your readers to know that I did not inherit them but bought them out of the proceeds of cultivation, chiefly yam growing.

My lands are old cow pastures in which I run a few head of cattle and mules which I find very useful helps to my field, by way of supplying manure and firming the land and also making use of the weeds and grasses that grow up. By their use an old thrown up yam field converted into a pasture is ready to be re-planted in from two to three years.

In taking up a piece of pasture for planting Lucea yams, I have the grass weeded and the hills dug in November and December. Forking is a new operation here and I have just begun with it, and I suppose from what the Instructor tells me I will get better results; that is left to be seen.

I do not dig two thousand hills to the acre as is done on rent lands, I consider that a "greedy choke puppy" policy to pursue. I find that 1,500 and even 1,200 hills quite sufficient for an acre.

I make sure that my hills are well dug, deep and large, and that the place is well drained to prevent my yam hills being washed by heavy rains. The preparing of heads for planting is a very important part of the business. A head should be 4lbs. at least in weight, and in any case not much smaller, so that it may grow a vigorous and healthy sprout. One in each hill is sufficient. When on account of scarcity of heads smaller ones have to be planted, two can be put to the hill.

Some yam growers believe in planting deep, but I find I get better results by shallow plauting, so that a portion of the head is exposed. The reason I think is, that when weeders are put to work they mould up the hills and cover the heads entirely, if they were planted deep, they will then become too deep and the result would be a poor crop.

A yam field should be weeded often enough to keep the ground free of weeds while the yam is growing and this might mean one, two or three weedings, according to soil and weather.

Now quite a good many planters cut their yams before they are ripe so that they may take advantage of a temporary good market or so that they may get large heads. By doing this a head may be got large enough to plant 4 hills. This is quite good enough for a man who is trying to increase his stock of heads, or for a beginner But I plant yams that I may get food for myself and plenty to sell, and I want as good a yam as I can get. I allow the yams to ripen and then "slip" or "back" them, that is, I cut the yams and turn them in the hills without taking them out. They will keep thus for a long time if they are ripe and will be very good for eating. They will not make large heads, but they will make heads large enough

to plant one or two hills each. In all kinds of yams I plant about 10,000 hills each year, which is not very large for a Hanover yam grower.

Good yams, that are well matured will always be preferred in any market and I find no difficulty in selling mine to the exclusion of loads of unripe yams.

In conclusion I will tell your readers that I have always tried to follow the hints I get from the JOURNAL and have found many of them very useful.

(The contributor of the above article is a very intelligent small settler who has adopted some modern methods in yam growing, which is his chief business. He knows what he talks about, as he grows yams to supply to the Public Institutions and gets a steady good price each year irrespective of the fluctuations in local prices. His son was sent to the Farm School at Hope, and has returned home and taken up yam growing for a living also.—*Ed.*)

—:o:—

RUBBER.

We have been seeking for the latest information as regards the tapping of Hevea or Para Rubber trees, and we have received the following among other letters which appears to give useful information:

Dear Sir,

Messrs. Henry K. Davson & Co., of London, have asked me to write to you concerning the best method and implement for tapping Hevea and Caera Rubber trees for the information of their friend Mr. E. A. dePass of London and Jamaica.

2. Mr. C. K. Bancroft, M.A., the Assistant Director of Science and Agriculture in this Colony, spent several years in the Malay States as Assistant Director, and he may be taken as an authority on thes subject. Recent tappings in this Colony have certainly confirmed his opinions. In an article published in the Journal of the Local Board of Agriculture for July 1913, he reviews the various tapping methods—the herring-bone, the half herring-bone, and the obsolete full and half-spiral systems. He recommends strongly, and I entirely agree with him, the latest method now adopted in the Malay States. Any tree 18 inches in circumference, 18 inches from the ground or base may be tapped, the highest yield of rubber being at the bottom of the tree. Any tree, therefore, 18 inches or more in circumference, is measured at 18 inches from the ground, the girth is taken and is divided by ¼ or ½, depending on the length of the cut. The slope of the V cut must be at an angle of about 5 degrees, if care is not taken in this respect when the bottom of the tapped surface is being reached, i.e., the bottom of the tree, there will be an area of bark left. For example, a tree say is 28 inches in girth, 18 inches from the base; the length of the side of the V will be 7 inches. A small straight wooden lath is used to run down a vertical line on each side of the tree to keep the length of the cuts uniform. This vertical channel must not be so deep as to allow of latex escaping and will have to be renewed from time to time. *One quarter of the tree will last one year, which will allow of renewal of bark in 4 years.* During tapping the bark must be removed in shavings about 1-20th of an inch thick.

The early morning hours are the most suitable for tapping.

TAPPING IMPLEMENTS.—I find that the best is a simple Gouge knife, in spite of the numerous patents. "A bent gouge, 5-16ths

of an inch wide at the cutting end," Mr. Bancroft states, "is coming into favour in Selangor.".

The Farrier knife is also useful; Mr. Bancroft states that "it is significant that on the immense area of rubber in the Malay States a patent knife is hardly ever seen."

Spouts to lead the latex to the cup are two and a half inches long and can easily be made from thin galvanized iron sheeting. The above remarks refer entirely to Hevea.

With regard to Ceara, I have had no experience of tapping these, probably a pricker would be useful, though a very dangerous implement to use in Hevea, as it means a rough, "burred," surface incapable of being again tapped.

Possibly Ceara might be tapped after the rough scales have been removed somewhat in the same way as Hevea. If I obtain any information in this respect I shall let you know.

I shall be very pleased to give you any further information if this is not sufficient. It all sounds elaborate but is simplicity itself actually. A man should make about 1000 cuts a day.

Yours faithfully,
(Sgd.) EDGAR BECKETT,
Agricultural Adviser,
S. DAVSON & CO., LTD.

The Creeklands Rubber & Produce
Company, Limited,
Berbice, British Guina,
14th July, 1915.
(Incorporated in England.)

:o:

THE HANDLING OF COCOA.

We should keep our cocoa plantation free from weeds. We should give the cocoa trees shade. The best shade tree is the banana tree.

We should not allow any parasites to trouble the trees. If the tree have plenty limbs, we should cut off about three of the small ones that hang to the ground. We should cut it with a sharp cutlass. The cuts must be very smooth. We should use a gouge to dig out the socket that will decay in the plant. We should tar it to prevent water to soak into the tree and to prevent the tissues from drying. We should cut off the gormandizer because it suck the mother plant. We should not ring the pods off the tree else we would soon see it begin to decay. It will not die but will look droopy and will not give a crop. If earth is around a part of the stem of the tree we should take a fork and clear it away from the base."

Mr. Cradwick, Senior Agricultural Instructor wrote:—"Above is an "impression of an elementary school boy of a demonstration of mine at Marlboro."

:o:

SEASONABLE HINTS.

POTATOES.—The best time to plant "Irish" potatoes in the lowlands, is between November and January. Those who wish seed potatoes must advise us at once as our first lot will arrive at the end of October.

* * * * * *

VEGETABLE SEEDS.—Our fresh supplies of vegetable seeds have arrived, and we are sending out at 3d. per packet, as usual, to members of the Society. Branch Societies requiring a quantity of such as Cabbage, and Turnips, should advise us ahead.

* * * * * *

VEGETABLES.—Now is the time for vegetable seeds to be planted. In case of heavy rains at the end of October or early in November, we prefer to plant seed for the early vegetables in boxes, which can be put under shelter, if required. Otherwise it sometimes happens that we get a wash-out and tender vegetables, just starting growth cannot stand our torrential rains.

We like to have some young plants (cabbage and tomatoes particularly) ready to transplant the second week of November—after that, we sow all seeds out in beds right away.

Remember the oft repeated hints on how to make beds for fine garden seeds. Turn up the soil roughly, where it is cloddy and clayey, and let it weather; the fine red dirt does not require this. Then refine the soil, making your beds as soft as possible, then firm down; we do this with a board, placing it on the bed and walking along it, sometimes jumping, to make sure of a firm bed below. Then line your rows; take the back of the rake and make shallow drills; again firm these drills with the back of the rake or the edge of the board. Plant all the seeds thinly; the usual fault is to plant thick and get spindly little plants crowding each other, necessitating thinning at once, and waste of plants. Cabbage, Turnip, Beet, and Tomatoes should be planted thinly; Carrots and Parsley thicker. Cover over with a quarter of an inch of dirt leaving still a shallow drill, so that a little soil can be drawn into the young plants, when they start, which is especially necessary with Cabbage and Tomatoes—not so much with Turnips, except in the very early stage. It is all right for Turnips to have the tops of the bulbs, or tubes, showing out of the soil, and these should not be covered. When the Cabbage and Tomato plants are 6 inches high and thick and sturdy, they can be transplanted. Turnips, Carrots and Beet it is better not to transplant but some as they thin out, plant the thinnings and if these get rain or are watered, they catch and make good plants. Leave the Turnips and Carrots rather close at first as they grow, and as they form little roots, these can be thinned out and used for soup. The young Carrot and Turnip tops also make good vegetables for soup.

All vegetables want rich soil, so that plenty of manure is required for vegetable gardens. It is hard to get a better soil dressing than rabbit manure, but it should be dug in a month or so before planting.

A good way is to turn over the soil meant for a garden 8 or 10 weeks before the vegetables are planted, manure it, plant Red Kidney Beans wide between the rows and close in the row, and use these green as French Beans. If they are not all finished when it is wanted to plant a nursery of Tomato or Cabbage seed, then sow the seed between the rows of Beans, before the latter are taken out. The soil is then ready for the garden, with the rabbit manure well incorporated. For Cabbages and Tomatoes we also use fowl manure well mixed with dirt.

All vegetables—but more especially lettuce—must be pushed along from the start; if dry weather happens, watering is necessary. Vegetables which get a setback are never as succulent as those which are kept growing apace.

* * * * * *

COFFEE.—Now is the time for those interested in extending their coffee, or for those in the mountains who have bananas but no coffee yet, to plant out a bed with the best coffee berries obtainable, as a nursery. Meantime, to save time, the very sturdiest looking plants (or suckers) that have grown up beneath the coffee trees can be selected to plant out this season. The seeds planted in the nursery will not give plants ready for transplanting until this time next year. The cool months make the best time to transplant.

We have tested and seen tested over and over again what are called "flying suckers," that is, long whippy plants 18 inches to 2 feet high, planted as they are, against the same plants cut back to a 4 or 6 inches long stump, and the latter have made quicker and surer growth (especially when a dry spell followed on the planting and made better shaped trees with regular primary branches from low down: the whippy plants never make regular shaped trees. So if planting out growing suckers, cut back and tilt a little to the side to favour one strong new growth starting. If planted straight, new growths will start too near the cut edge and there will be too many shoots.

If planting out a nursery bed, be sure to take the best seed from a strong growing tree, and it is best to get seed from as high up as possible—not on the tree, wefer to elevation of the land. Do not plant seed grown under 2,500 feet above sea level.

We shall get seed for any body who applies, and guarantee it to be high grown seed from foodlife trees.

* * * * * *

DEPTH OF PLANTING CORN.—We have experimented, though perhaps roughly, in planting corn at different depths. Most corn we think is covered over too deeply and too roughly. We find as a general rule if the corn grains are covered with one inch depth of soil, they come up quicker and stronger than if covered deeper. If the soil is moist that is the best depth; if planted however in dry weather it is best to plant deeper but even then not over 2 inches. Guinea corn should merely be covered, not more than a half-inch.

In last JOURNAL we wrote that there were usually some compensating circumstances even in a calamity like a hurricane, because a storm usually brought rain and plenty of it for months after. Then we began to think about what possible good the long droughts had done. They of course rested the land to some extent so that when rains came the response in growth was instant and at high pressure as it were: they made cultivators think more and plan more to circumvent dry weather in future: ponds were cleaned and deepened, tanks cleaned out and repaired, new tanks made, public tanks and reservoirs erecred as reserves, irrigation schemes planned and one started.

There is one way, however, that droughts certainly have conferred a benefit that we did not think over at first until someone referring to the good seasons and the expectation of years of good seasons to follow, said:—"Well, I hope we shall not require to bother with all this mulch mulch business again." At the same time, we saw places where the heavy rains had "melted" or dissolved heavy mulching that had been applied until with the soil being forked, there was turned under a heavy coating of rich looking manure.

The point is, that lands that would never have received any manure at all, have been mulched heavily over some years with grass and trash which have formed manure, and the soil is now richer than it would have been had there been no droughts.

It would be a mistake, however, to trust to a belief that we are going to have regular showers all through this and next year. It will be a wise policy to prepare for the usual dry weather from January to March and from the middle of June to the middle of August next.

Green dressings can be planted still: it is better to cover the land with something of use like Cowpeas than leave it bare to be overed with weeds which will rob the soil if left until they are rank, and cause constant expense to keep down. One year's seeding (of weeds) means seven years weeding.

Have a mulch of green crops or dry material (grass, trash, etc.) according to circumstances, ready for January at any rate.

* * * * * *

DRAINAGE.—It is good to see fields laid off with a good system of drainage. Practically all lands need drains, would be the better for them, although such soils as are in parts of Southern St. Elizabeth and the red dirt soils of Manchester, do not require much in this way: no drains are put in these lands at present, but they would benefit by trenches of course at wider intervals than are necessary on heavy loams or clays as catchpits if for nothing else.

While banana and cocoa cultivations are usually well drained, other cultivations are not. Cane fields are not drained enough: coffee cultivations are not usually drained at all: provision fields need drainage for two purposes—(1) to prevent severe wash; (2) to save washed soil; (3) to aerate the soil which last means better growth of the plants.

* * * * * *

TOBACCO.—It is still time to plant out nursery beds of tobacco. We have seed of selected natives (for rope tobacco), Havana (for cigar tobacco) and a little Sumatra (for wrapper tobacco.) A threepenny packet of Havana and Sumatra should give enough plants to plant an acre; a 3d. packet of selected native gives enough plants to plant 2 acres.

———:o:———

STOCK NOTES.

PIGS.—While we have local epidemics of "Hog Sickness" here—this is a term used locally for every kind of serious sickness among pigs which causes a series of deaths in a locality—but we have observed that the symptoms have not always been the same—it has never been established that we have the real "Hog Cholera" here.

We have over and over called the attention of all those who keep pigs, to this: that most cases of so-called "Hog Sick" are really indigestion, and the moment pigs refuse food, and look huddled up, medicine should be given.

We have also impressed on everyone the necessity of having shelter for small stock; in heavy, continued rains, pigs (which do not mind ordinary rains) are often tied in exposed places, or are penned up in pools of water; their feeding is neglected, because of the rain, or only one big pile of stuff is put down to them in 24 hours, when they over-eat, and then later, forced by hunger, eat up the sour scraps. The result is indigestion, which lessens and lower their condition, and lays them open to pneumonia, from the continued beating and chills following on the heavy rains. The symptoms these pigs suffer form closely resemble Swine Plague, which is different from Hog Cholera. The latter is a disease of the digestive tract; Swine Plague is a disease of the respiratory organs.

The whole matter is to form the subject of investigation by the Government Veterinary Surgeon, and whenever a lot of deaths occur in a district the local Instructor or this Office should be notified at once.

:o:

ADVICE.—A good many questions on troubles among stock are sent us, some of which we can deal with promptly by letter; others however require the advice of a Veterinary Surgeon. This Society has not the direct services of a Veterinary Surgeon at its diisposal, but technical questions can be referred to the Government Veterinary Surgeon through the Director of Agriculture.

We give some specimens of the questions sent us:—

"I have just come across a severe case of parasitic disease in the cow, and for the benefit of the members of our Branch here, many of whom own cows, I send herewith samples of the parasites and beg of you to advise me as to the precise nature of the disease, and the treatment.

This parasitic scab entirely covers the scrotum and sheath of cod (its a bull) and appears also on various other parts of the skin. It has also attacked the mouth, gums and insides of nostrils. The growth, where thickest on the sheath attains the length of an inch in some places and the extremities are horny.

The cow does not feed as usual, though whether this is due to lack of appetite owing to the progress of the disease (it first appeared sometime in December last) or to the growths in the mouth hindering feeding, I am unable to determine."

Ginger Ridge,
Old Harbour.

The following reply is from the Government Veterinary Surgeon to whom this was referred:—

"This affection of the bull mentioned appears in the absence of a microscopical examination, to be papillomatous in which numerous papillomata or warts occurs in various parts or over the whole body. The chief parts usually affected are the thinner portions of the skin, e.g., sheath, scrotum, nostril, lips, etc.

I have only met with the disease in bulls, it is rather rare and not contagious, that is, there is no tendency of the affection to spread to other members of a herd.

The loss of appetite is due to the affection of the mouth.

Except for the temporary loss of appetite and condition and unless the wart should appear in the internal organs, the disease is not serious and the animal may even recover spontaneously.

For treatment mild caustic dressings may be used, on the skin an ointment of—

Zinc Sulphate	½oz.
Copper Sulphate	¼oz.
Lard	4ozs.

Apply to the warts once daily.

The affection of the mouth may be treated with a mouth wash of—

Alum	½oz.
Water	1pint.

A little to be used in sponging the mouth twice a day. It would be interesting if Mr. Gregory would give more details as to the onset of the disease and whether other animals of his heard are affected."

G. O. RUSHIE-GREY, V.S.

"Will you be so kind as to tell me what is to give a cow passing blood;beg for a reply by return post."
Crooked River.

First, it is not said where the blood is passing from, nose, mouth, vagina, or arms, but probably the last.

Second, it is not stated under what conditions the cow is kept nor third whether it has received any injury or is in calf.

The passing of blood is one of the symptoms of Anthrax, a most fatal disease and dangerous because of its extreme contagious and infectious character.—ED.

* * * * *

We wish to point out that in sending for advice, correspondent must give full and clear descriptions and that is not often done. How could a human doctor give advice by letter if only the most meagre description of a trouble was given?

———:o:———

MILKING A COW.—The proper milkng of cows is an art that means a lot in a milk business. The good milker, who sits close to the cow's side, milks with both hands, milks lightly and easily yet makes the milk flow in a long unbroken stream into the pail, saves time and gets more milk over the one who sits a yard away, pulls at the teats as if they were india rubber, using only one hand, takes three or four times as much time to get milking finished; and a cow so treated never does feel any pleasure in giving her milk and so does not give as much. Most cows taken young can be taught to stand for milking without any rope, and if properly handled not only stand but stand anywhere without being taken to the same place in a yard every time.

Plenty of cows too that have had calves can be so trained, to milk without their calves; but that is not so easy as with heifers.

If the milking is properly done, the cow enjoys the operation, chewing the cud the while with eyes half closed, and one could almost say—a smile on her face.

Every cow before milking should have her udder washed with a disinfectant, and there is no better for this particular purpose than Permanganate of Potash—a pinch of the crystals in water. Then the first two "draws" of the teats, which contain dirty milk, should be drawn on the ground. The milk following is good.

———:o:———

MULES.—Some months after the War broke out, at the instance of Brigadier-General Blackden, we made enquiry all over the island as to the number of mules, and the number of horses suitable for transport purposes, which would be available in Jamaica, and the prices of these. We do not appear to have a large number of beasts big enough and stout enough, and the reply from the War Office was that animals from Jamaica would not, at present, be required.

———:o:———

JOHN CROWS.—It has been proved beyond the shadow of a doubt that the John Crow is a carrier of Anthrax. This bird, however, should get no chance of carrying infection, as immediately an animal dies of any disease at all, it should be burned, or buried as deeply as possible. The results of investigations have shown that the Turkey-buzzard, which we here call the "John Crow" is capable of carrying infection for long distances and creating fresh foci in pastures new. In this island the John Crow is now a useless bird and ought to be exterminated.

An American Paper says "losses due to diseases of live stock on American farms are appalling," and gives the cause as ignorance and carelessness.

———:o:———

TICKS.—Two Dipping Tanks are now in use, one at Hope Stock Farm, and the other at Mr. Henry Conran's pen at Woodfield, St. Ann, where a large number of cattle are kept. This method of getting rid of ticks will be found to be more expeditious and economical in the long run than washing or spraying, though where only a few head of cattle are kept, spraying will still require to be done.

———:o:———

DOGS.—The most dangerous animals to have about the place, as far as parasites that may lead to harm of human beings and domestic stock, are concerned, are dogs. They are usually infested with fleas and very often no attention is paid to getting rid of these or to keeping the dogs clear as far as possible. Modern veterinary experience goes to show that dog fleas are the hosts of Tape Worms, and that the dogs themselves, pigs, sheep, as well as human beings may be affected with dangerous troubles, all arising from the dog flea. We will not enumerate what these troubles are, but we would advise everybody who keeps dogs to treat them once a week with some flea killer. Dog fleas are hard to kill, but it is necessary to get rid of these parasites.

———:o:———

POULTRY NOTES.

APPRECIATION.—I may say that the success of my poultry yard with turkeys as well as fowls is entirely due to your "Poultry Notes" in the JOURNAL. My fowls are not kept in pens, but allowed free run, and with a brook across the lawn, they have all the pure water they need, so are pretty healthy, unless the weather is very bad, and then I dose them beforehand to avoid any calamities in the way of roup, etc.

H. A. M.

St. Ann's Bay.

———:o:———

Fowls will soon be getting through the moult. Some moult a great deal earlier than others, commencing in August—a few even in July—but by the end of October the majority should be through the moult. Hens that commenced to moult early should now be looking to lay again. We notice that some fowls have not yet commenced to moult, at the time of writing—the end of September—some are still on the way, and that some are quite through the moult.

I have advised before this that a little sulphur be added to the food of the fowls as it helps them to feather; also, some simple stimulants to be given to the fowls in their food (failing a regular tonic or condition powder made up specially for fowls, and of which there are some that are really good) such as powdered ginger, pepper or mustard. We prefer to use powdered ginger. The dose of this or mustard to be used is one teaspoonful to each pint of soft food.

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One of the most difficult things to get done in connection with poultry that are kept in the ordinary country style here, is the separation of the sexes. It always pays, however, to have an enclosure in which to put up young cocks, and so long as they are kept busy with a good scratch heap, they will develop bone and size, and then lay flesh over the bones with economy. The one or two selected for stock purposes will be more vigorous, and the rest selected for the table will grow bigger and be easier fattened. This is the time to begin to watch young cocks and select those to be kept, if it is not necessary to introduce fresh blood. If this is necessary, the best can be exchanged for the best of some other person and some fresh blood introduced from reliable sources.

The Hope Stock Farm have been selling cockerels and pullets from their imported stock of different breeds at very reasonable prices.

BROWN OR WHITE EGGS.—There is practically no difference between a brown-shelled egg and a white-shelled egg. The preference for brown or white eggs by particular people is only a fad. The feed, however, makes a great difference in the contents of an egg.

"The flavor of even a fresh-laid egg, and its keeping qualities, depend largely upon the diet of the hen that laid it. Verification of this last suggestion is a simple matter. If your hens now have access to unclean food, exclude them from it for a week, feed them only clean wholesome food, free from strong flavors. At the end of the period reserve some of the eggs, then for a few days give the hens a small amount of onion, celery, boiled cabbage or any vegetable matter having a decided flavor, and test the flavor of the two lots of eggs.

The "certificate" egg is a coming market commodity; how soon it will come depends upon the pure food experts."—*Farm Journal U.S.A.*

Very true. The common or market egg as sold in Jamaica is usually so small that it is a dear bite, and what the fowls have been fed on is a matter sometimes better not discussed.

Eggs should be sold by weight, and be guaranteed fresh and clean fed.

:o:

COMMENTS.

"WET SUGAR."—Otherwise "pan sugar" or "settlers sugar" the product of the small sugar mills, being simply the cane juice boiled down sometimes to a soft soapy consistency, dark as mud, sometimes to a light golden coloured sugar. The production for this year owing to good seasons is great but the demand small because most people have got into the habit of using Brown or White Albion Sugar. Even those who make the "wet sugar" and grumble at the low price, do not themselves use their own product but buy "Brown Albion" in the shops. Sugar estates where rum was of more value than sugar and when their own crops of cane were short, used to purchase this tin sugar. This year, however, most sugar estates will have good crops and may not purchase. Again in some districts the sugar made is so mucky that it can hardly be sold in the market and is even no use for making rum on estates. Good wet sugar cannot be made without the use of temper lime, and almost every settler who boils sugar in the parishes of Clarendon, Manchester, and Trelawny, regularly uses temper lime. In the other parishes some use it, some do not, and the result is poor sugar. A great deal depends upon the soil as to whether the sugar is dark or light,

Then again there is often trickery in putting up "wet sugar" for market. Of course this trickery always is discovered and besides hurting the trickster, unfortunately hurts those who put up an honest product. We have been informed of cases where there was a layer of mud in the bottom of the tins, stones in the tins, and where dark mucky sugar was capped with nice light coloured sugar, i.e., 2 or 3 inches of the latter at the top.

Before we can do anything to help the "wet sugar" industry, it is necessary for a regular campaign to be instituted by our Branch Societies against everything in the way of trickery, and that every member of a Branch Society who makes sugar promises to use temper lime and to make good honest sugar.

:o:

COCOA AND COFFEE DRYERS.—We beg to bring to the notice of our readers, the advertisement of Messrs. Wm. McKinnon & Co., Ltd., Spring Garden Iron Works, Aberdeen Scotland. There has been some trouble in finding a firm that could make substantial coffee and cocoa dryers at a very moderate price to suit those with medium sized cultivations. Messrs. Wm. McKinnon & Coy's. make efficient cocoa dryers from about £50 upwards.

GUINEA GRASS.—Ants are very fond of Guinea Grass seed, so that when it is planted they carry away sometimes as much as '5 per cent; sometimes none germinates at all through their attacks. Before sowing Guinea Grass seed mix it with equal parts of wood ashes and fine earth, then sow broadcast. This seed is available now.

———:o:———

WAR GIFTS.—All those who want to send gifts to relatives in the Army who may still be in the United Kingdom, can procure these through Aston Gardner & Co., Kingston, as previously advised. We are not able to send individual gifts free of cost any longer; we can only send to Hospitals. Messrs. Gardner will provide fruit and preserves through their house in England.

———:o:———

SHOWS.—The Hopewell Branch in Hanover intends holding a small Market Show on the 9th November. The profits are to go to the Socks Fund for soldiers. The President, Mr. E. E. Melville, is one of the few men that can knit socks, and he has sent over 2 dozen pairs of socks to the soldiers already; he is also teaching a class of girls. This is good work.

———:o:———

CITRUS FRUIT.—The storm seemed to have done some good in another direction than those mentioned before. It has practically cleared off the Sooty Mould that was causing so much damage to citrus trees. The insects which cause this Sooty Mould that covers the leaves of orange trees will return but they can be prevented by the timely use of a spray

———:o:———

ORANGES.—Messrs. James Robertson & Sons, of the Golden Shred Works, Catford, London, desire to do business in Sweet and Bitter Oranges, if any one here cares to enter into communication with them. We have plenty of fruit; the trouble of course, will be the direct shipping.

———:o:———

APPRECIATION.—It is a source of much pleasure to the writer to feel justified in saying that each year your publication becomes more interesting, complete and valuable, and out of more than thirty publications that I receive monthly there is none I value more highly or read with more interest. J. A. S.

New Haven,
Conn., U.S.A.

———:o:———

TANSY FOR HOOK WORM.—Another native product—a common weed—can be used to advantage. We wrote in a previous JOURNAL that owing to the war, and being a German preparation, although from an Indian plant, Thymol, used as a vermicide for worms in horses and considered the most useful specific for Hook Worms in human beings was very dear. Tansy tea has always been locally used as a specific for worms in horses. Now a local Doctor says it is equally of use for the dreaded Hook Worm in human beings, but the decoction or tea must be the right strength. This knowledge is of great value.

Birds and Insects.—Few of us know the value of birds and insect destroyers although we may see some varieties every day of our lives. There are no doubt some birds that few have a good word for and which might be better killed out such as the John Crow and the Chicken Hawk. There are others that cause us a good deal of loss one way or the other and whose delinquencies are very obvious while the good these birds may do is not readily observed. And there are others which perform nothing but good service to the agriculturist and yet these are often killed indiscriminately, simply through lack of knowledge of their usefulness to agriculturists being known, understood, and appreciated.

* * * * *

Parroquets, and parrots, are only protected during the breeding season—from the 1st March to the 15th August. They are very pretty birds and we would be sorry to have them destroyed until they became scarce; but they are not insectivorous and we do not know of any good they do to the planter. We should like to hear something in their defence.

We do know that parroquets are very destructive to corn while it is ripening in the fields, by tearing open the husks and eating the grain.

* * * * *

"John Crows" are not protected at all and can be destroyed at any time—popular belief to the contrary, notwithstanding.

On the contrary, the common "Chicken" Hawk, otherwise, the Red Tailed Buzzard (*Buteo Borealis*), is strictly protected under the Law all the year round; but why, those who know something about the diet of birds cannot understand.

The owl is acknowledged to be the best ratter we have, and no one cares to destroy an owl. The Chicken Hawk—well-named—hunts only by day (rats and mice roam by night) and his chief diet, to about 99% is birds, and in some districts he is the scourge of the Chicken-yard. We should like also to hear anything in his defence.

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Food Supplies.—Whatever may possibly happen to our Oversea trade (our exports and imports) through war, or the manipulations of speculators, or trusts, or combinations, or rings; let us make sure that we have plenty of food to eat here; and then we can view the general situation with more equanimity than if we were hard up for something to eat. Let us have plenty of corn, yams, sweet potatoes, cocoes and vegetables, together with milk, eggs and our own beef, mutton, pork, fowl and rabbit, and we can keep smiling.

What nonsense to buy imported salt beef from a barrel in the stores at 10d. to 1s. per lb. in the country while fresh meat can be had at 4½d. to 6d. per lb.. and cattle not freely saleable. What about salt beef put up here?

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Corn.—There is a great deal of misconception about the drying of corn. Some merchants actually insist that the corn sent them should weigh 62lbs. to the bushel; on the contrary, we insist that we do not want corn that is over 60lbs. to the bushel, and when our seed corn comes here it is dried again and we issue it at the weight of 58lbs. to the bushel. At this weight it is really dry and will keep. A con signment of seed corn that came to us weighing 60lbs. to the bush

after being dried for three hours in the hot sun of Kingston shrunk 1½ lbs. to the bushel, so that it could not have been perfectly dry when sent as dry. Then again, corn should be dried first in the cob and it will then shell out easily. The seed corn that we keep for ourselves was never in the sun at all (as the weather was wet), but hung up in the cob in a shed where the breeze blew through; on some of it being required, it shelled out easily without any husk at the tip and weighed 58lbs. to the bushel, and on the grain being put out in the sun for a day it still weighed 58lbs. to the bushel, so that it was perfectly dry. No seed corn can be used as such unless it has been dried in the cob before being shelled out. Red corn weighs a little more per bushel than yellow corn.

———:o:———

SHRINKAGE OF GRAIN, ETC.—Very little seems to be understood about the loss that occurs in curing and keeping over grain, such as corn.

The ordinary weight of corn offered in August and early September or January and February is 64lbs. to the bushel, in the local markets as brought in by the people 66lbs.

No corn can keep long if transported in bags and stored without being exposed to sun and breeze and cured, when the weight is more than 60lbs., to the bushel. The American corn is invariably 56 lbs. to the bushel and it is not usually kiln dried.

Then if a man thinks he is buying fresh corn cheap at 2/6 a bushel, and it weighs 64 to 66 lbs. per bushel if he keeps it he loses at least 4 to 6 lbs. weight on each bushel. If he does not sun it, it will not keep and he has to add the cost of sunning.

A bushel of well dried ears weighs 80lbs., but as these come from the field they weight 100lbs. and sometimes over.

There is also a great shrinkage in the weight of Irish Potatoes. In keeping 3 months there is a loss of nearly one-third.

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CORN MILLS.—In spite of the storm, which to a large extent
spoiled the April planted corn, there has been a large production this
to ... It is simply ruinous for small growers to sell cheap and later on,
more inte... dear; or be selling corn cheap and at the same time, be
publications ...ican corn meal almost every day of their lives.
or read with mo... ...holder should have a small corn mill, or better still
New Haven, ...to bear and have a good strong mill in the district
Conn., U.S.A. ...rn into meal quickly and efficiently. A good
...eties where the members live near to each
...mselves with good corn mills. We have
TANSY FOR HOOK WORM.— ...d have found some mills that on one
weed—can be used to advantage. ... fine meal. We are getting some of
that owing to the war, and bein... ...wn cornmeal saves at least one-third,
from an Indian plant, Thymol, u... ...buying this useful food.
horses and considered the most u... ...:o:———
human beings was very dear. T... ...rthern country where there is only.
used as a specific for worms in hor... ...ne seeds keep for years, but we find
equally of use for the dreaded Ho... ...nths, and that makes our attempts
decoction or tea must be the righ... ...h seed in stock very difficult. For
great value. ... were already losing their vitality by
in our seed boxes, some weakly. We

have not the best equipment of course or the best place to keep them and the heat of our store is too great.

We have seed boxes and make tests of our seeds periodically. Another difficulty in shipping seeds like corn and peas and beans in quantity is that the wharves and railway sheds usually swarm with weevils which sometimes get at the seeds, even when they are weevil free when leaving the office. In future we shall treat each lot of a bushel of corn or over with Napthalene as it leaves.

—:o:—

QUASSIA.—In the Bulletin of the Department of Agriculture (Vol. II., No. 8) lately published, Mr. A. H. Ritchie. the Government Entomologist, discusses the subject of Quassia as an Insecticide. Quassia is the Chemist's name for out Bitter-wood and it is often used as an Insecticide in combination with some sticky product like Whale Oil Soap. A decoction of Bitter wood used to be in common use for soaking corn before planting to keep off attacks of mice and rats, but it has been very largely superseded by the Kerosene and wood ash mixture.

—:o:—

WAR GIFTS.

Those who sent this fruit and other fruit in former consignments (whose gifts have all been acknowledged in this JOURNAL) should feel gratified. Others who have fruit and have not yet sent gifts of oranges and grapefruit, limes or lemons, may from these letters of acknowledgement learn a little as to how wounded soldiers racked with pain and fever appreciate a few oranges and grapefruit (of which we have such abundance) or a glass of fresh lemonade.

One Kingston merchant who went to stay a few weeks in Manchester, and saw some of the boxes of citrus fruits going forward as war gifts—always to be noticed from our rather striking labels—was so much impressed that he gave us £5 to send oranges and grape fruits for him.

If it could be more brought home to everyone here—seller and buyer alike—what economies, what self-denials, what hardships, what self effacements, are cheerfully and patiently borne by the German people at the present time, and which to some extent have been accepted in Great Britain, and perhaps most of all by the middle class from the first few months of the war, and are gradually being pressed upon all classes, there would be more give and take here. So far, the effects of the war have been very little felt in Jamaica; ships call at and leave our ports; we have less shipping of course, but not very much different from usual; passengers come and leave by these steamers; by every steamer our young men go to enlist; our local food supplies are abundant, and we have plenty to eat and drink. The great majority sleep at peace; only those who have relatives fighting the Empire's battles, and those who realize the strength of the enemy, who know Germans—and the tremendous issues at stake, are anxious, and being anxious do their little bit to help to make the Empire safe and prosperous.

How would anyone here like to live in Jamaica under Germans from Germany after a war like this ?

Shipment per s.s. "Camito," Sept. 13th, 1915.

A.—Individual Gifts (to a Hospital, etc.)

Donor & Address.	Gift.	Addressee.
Mrs. L. Johnston, Brown's Town	2 boxes Cigarettes (containing 1,000 each)	The Herbert Hospital, Woolwich, Kent, Eng.
Mrs. Roots, Secretary Victoria League, Kingston	1 bundle (8) Walking Sticks	Red Cross Head Depot, London
Miss Doris Chandler, Highgate	1 box Miscellaneous Preserves	Lance-Corpl. H. Mannell No. 392, Military Railway Police c/o Army Post Office, S.I., British Exped. Force, Abbeville, France.

B.—Gifts for General Distribution.

1. Preserves.

Donor.	Address.	Quantity.	Kind.
Miss I. Branze,	Richmond Park, Spaldings	2 tins (20 lbs.)	Guava Jelly.
The Women's War Committee	St. James, Ja.	2 tins (20 lbs.)	Banana Jam
ditto	ditto	2 tins (20 lbs.)	Pine Jam
ditto	ditto	1 tin (10 lbs.)	Mango Jam
ditto	ditto	1 tin (10 lbs.)	Orange Marmalade

2.—Citrus Fruit.

Mrs. Wynne	Brokenhurst Mandeville	15 boxes	Oranges
		1 box	Lemons
A. C. Westmoreland	Annotto Bay	23 boxes	Grape Fruit
J. M. Leiwis	Yallahs	1 barrel	Limes

3.—Walking Sticks (shut out from the shipment per s.s. "Cavina," for lack of space.)

Donor.	Address.	Quantity.
W. Hyde Macauley	Spaldings	300 Sticks
F. E. Nesbitt	Balcarres	20 ,,
Miss V. McDaniel	Stony Hill	14 ,,
Fred. Hart	St. Ann's Bay	41 ,,
Per Miss E. E. Swaby, Hiattsfield, Ocho Rios,—Stephen Marsh, Phillip McKoy, David Nelson, John Palmer, R. Williams, J. Harvey		200 ,,
Cambridge-Woodford Branch		2 bundles
Mrs. Deerr	Melrose, Half Way Tree	100 Sticks
Hon. H. Cork	Port Antonio	2 bundles
Baxters' Mountain Branch		40 Sticks
M. E. Muirhead	Mandeville	2 bundles
Brandon Hill Branch		2 bundles

(These were repacked into 28 bundles containing 1,438 sticks.)

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Shipment per S.S. "Coronado," September 27th, 1915.

A. Miscellaneous Gifts for Hospitals, etc.—

Donor & Address.	Gift.	Hospital, Etc.
Miss Phyllis Cork, per Mrs. H. Cork, Parkmount, *Port Antonio*	1 Case Miscellaneous Preserves	Carriden House Hospital, Bo'ness, Scotland.

Mrs. E. M. Wilson, Long Harbour, Montego Bay	300 Surgical Sponges, 5 doz. Bandages	French Wounded Emergency Fund, 34 Loundes Square, London, S. W.
Per Mrs. W. W. Wynne, Mandeville	1 parcel 36 small pillows	Lady French.
Mandeville Ladies' Working Association	1 parcel 1 doz. full size pillow cases	Red Cross Society (Q. M. N. G.)
	1 parcel 100 bags for Soldiers.	Lady Smith-Dorrien.
Miss M. Symmonett, 99 Church St., Kingston	1 box contg. 16 Children's Warm Dresses	J. Navaux, Esq., Hon. Sec. Belgian Relief Funds, 32 Goswell Rd., London, E.C.
Miss G. Smith, "Hermitage," Malvern	1 parcel contg. 6 small pillows	The Lewisham Military Hospital, Lewisham, London, S.E.
Mrs. R. Craig, Savoy, Chapelton	5 boxes Oranges 4 ,, Grape Fruit 1 ,, Limes	Gray's Hospital, Elfgin, Scotland
ditto	5 ,, Grape Fruit 4 ,, Oranges 1 ,, Limes	Gordon Castle, V. A. D. Hospital, Fochabers, Scotland
Mrs. H. E. Crum-Ewing, Knockpatrick, Mandeville	1 ,, Oranges	Barra House Hospital, Largs, Ayrshire, Scotland.

B. Citrus Fruit for General Distribution among Hospitals.—

Donor & Address.	Quantity.	Kind.
Ronaldson & Thursfield, Stone's Hope, Newport	20 boxes	Grape Fruit
Mrs. W. W. Wynne, Brokenhurst, Mandeville	14 ,,	Oranges
	4 ,,	Grape Fruit
	1 ,,	Lemons
Mrs. H. E. Crum Ewing, Knockpatrick, Mandeville	6 ,,	Oranges
Conrad Watson, New Yarmouth, Vere	24 ,,	Grape Fruit
Henry Maxwell, Friendship, Myersville	1 ,,	Grape Fruit
	3 ,,	Limes

C. Walking Sticks.—

Donor.	Address.	Quantity Sent.
Edward Codnor	Southfield, Falmouth	1 Bundle
M. E. Muirhead	Mandeville	4 bundles
Frankfield Branch	Clarendon	1 bundle
Central St. Mary Branch (per J. A. Banks)	Richmond	3 bundles
C. Z. Marzink	Richmond	1 bundle
H. Rudolf	Hampstead	2 bundles
Mrs. F. G. Lopez	Spanish Town	4 bundles
G. R. Smith	"Hermitage," Malvern	2 bundles
An Anonymous Donor		9 bundles
An Unknown Donor		1 bundle
Rev. W. W. Hardie	Coleyville	1 silver mounted Ebony Walking Stick.

(These were repacked into 29 bundles, containing 916 sticks, all shipped to "Tit-Bits," London.)

The following is an acknowledgement sent to the Hon. H. Cork, of previous consignments received:—

Sir,—I beg to enclose you a copy of a letter I have received *re* the generous gifts made by various parties in Jamaica for walking sticks for the wounded soldiers,

and I shall be glad if you would be good enough to make public in your order that it is most desirable to obtain sticks with crooked handles.

Thanking you in advance for inserting this letter,

I am, etc.,

(Sgd.) HENRY CORK.

Park Mount, Port Antonio,
September 28th, 1915.

THE LETTER.

London, August 16.

Dear Sir,—I have much pleasure in advising you of having now taken delivery of your splendid consignment of walking sticks towards the "Tit Bit's" Fund.

Allow me to offer my warmest thanks to you and those who have assisted in providing such an excellent gift.

You will, I am sure, be pleased to know we are receiving a magnificent response to our appeal which is enabling us to provide thousands of our splendid soldiers with a very essential support when about to leave hospital, and their grateful letters of thanks show how much the gifts are appreciated

Again with many thanks and all good wishes,

I am, etc.,

(Sgd.) M. BLAKE, (Publisher.)

INDIVIDUAL GIFTS.

READERS PLEASE TAKE NOTE.

The West India Committee,
15 Seething Lane,
London, E C., Eng.
13th August, 1915.

"*Your former letter confirmed our exchange of telegrams regarding individual* gifts. As already stated no gifts can be forwarded free to individual soldiers or sailors Under certain conditions small packages can be sent to individual prisoners but there are conditions as to size (weight must not exceed 11 lbs.) *and goods must not be packed in tins, etc. In the case of dutiable goods* bonds have to be taken out and there is a difficulty about securing release as it is impossible in many cases to discover whether the goods reach their destination. In view of the fact that our staff is alreldy reduced owing to the War I am very sorry *that we could not possibly undertake the work. It would be in every way* much better for relations and friends of prisoners to send us money with which to purchase articles which can be sent out from here from one of the agencies or stores already handling this kind of business. If this appeals to you let me know. It *will only be necessary for you to send (1) the name of the donor* (2) the kind of gifts to be sent (3) the name of the addressee, and (4) the remittance for cost. We will then buy and despatch gifts accordingly."

(Sgd.) ALGERNON E. ASPINALL,
Secretary.

BRANCH NOTES.

FAR ENOUGH (Clarendon.)—A meeting was held at the Good Hope Schoolroom on Thursday, 26th August, 1915, when there were present, the President and Vice-President; the Instructor. the Secretary and Treasurer, ten other members and two visitors. It was proposed and agreed to that *in future all monthly meetings* be held on the last Thursday in each month. Relative to the matter of lumber on Crown lands the President moved a resolution which was agreed upon and the Secretary was asked to send a copy of the resolution to Mr. Barclay and by him to the Surveyor General. "*It having been brought to the notice of Far Enough Branch that there*

are on the Crown lands adjoining this and nearby districts a large number of blown down and fallen hardwood trees suitable for sawing up into Boards and scantlings, and in view of the fact that many of the peasant proprietors and small householders are anxious to improve their houses in accordance with the advice and encouragement received from the Jamaica Agricultural Society, but are unable to do so owing to lack of lumber, it is hereby resolved that the Government be approached with the view of ascertaining whether they would be willing to give those trees to bona fide small householders or sell them at a reasonable rate which would be within the reach of the smallest householder.' The Instructor gave a very interesting address on the curing of coffee, and the planting and curing of Cocoa, and also advocated the planting of cocoa instead of bananas. The Instructor complimented the President on the interest that he takes in agriculture. The President proposed a vote of thanks to the Instructor, which was seconded, for his able and interesting address on cocoa planting and curing. The delegate, Mr. Benjamin Thomas, who went up to Kingston to the Half-yearly meeting of the Parent Society gave a very interesting report of the meeting. It was brought to the notice of the meeting, that since the hurricane of the 12th and 13th August several cases of Praedial larceny have been reported, Mr. Henry Smith, of Good Hope, Mr. Benjamin Thomas of Rodon Hall are nominated to be appointed as Authorized Persons. Mr. Benjamin Thomas for Rodon Hall district and Mr. Henry Smith for Good Hope district. The meeting was adjourned to the 30th September, 1915. I. C. ROBERTSON, Secretary.

UPPER METCALFE (St. Mary.)—The monthly meeting was held in Brainerd School Room on the 26th August. The President, the Instructor and Mr. Watts, his Assistant, the Secretary, fifteen members and a few visitors were present. After a few explanatory remarks from Mr. Cradwick, his letter to the Society respecting the getting of cocoa plants from Castleton Garden was tabled. The Society decided to purchase a set of pruning tools for the use of members on easy terms. Mr. Cradwick was asked to purchase them and Mr. Bell appointed custodian on their arrival The Instructor addressed the meeting. He read and explained the rules and prizes of the St. Mary Cocoa Cultivation Competition, and advised competitors to pay in their entrance fees at once so that he could be placed in a position to render valuable help where necessary. Mr. Cradwick then blamed members who had not turned out to discuss the proper means that they should adopt to restore their cultivation. He was willing to make any representation necessary that the meeting would adopt. Mr. Edwards advised members who had not placed all their eggs in the banana basket to put their shoulder to the wheel and endeavour to restore their cultivations without the aid of loans as far as was compatible with reason and common sense, as he was in a position to state that there were many small settlers in and around the district of Brainerd who were doubtful about the ownership of their small holdings, because of recent loans. After discussion the meeting decided that, at least for the present, they would make no representation to the Government for loans. The Instructor expressed satisfaction and complimented the members on their decision. He advised that members combine and start their own co-operative Loan Bank where they could get money to borrow when needed. The President then gave notice that at the next meeting he would move a resolution for the establishment of a "People's Co-operative Loan Bank in the district of Brainerd. Meeting adjourned till 4th Wednesday in September. W. T. EDWARDS, Secretary.

MT. REGALE (St. Mary.)—The monthly meeting was held on the 27th August. Sixteen members and the Assistant Instructor, Mr. Watts, were present. Mr. Watts impressed upon the members the necessity of getting walking sticks to be sent to the wounded soldiers. Mr. Geo. Roberts brought six. Read financial statement from the Treasurer showing £2 in hand. It was brought to the notice of the members that no meeting of the branch appeared in the JOURNAL for some time and the Secretary was instructed to ask Mr. Barclay that his report be published in September's JOURNAL. Read letter from Mr. Cradwick suggesting to members to get cocoa plants from Castleton Gardens and how they are be got. Matter is under consideration for next meeting. Mr. Watts here referred to the cocoa competition to come off in 1916, how the marks are distributed, and what should be done to secure a prize. In dealing with effects of the late storm he pointed out the harm done to standing banana trees by removing the broken leaves; the way to find out suckers strained by the wind; and the weak roots that come from suckers left when banana roots are turned over. It was pointed out that rot follows the broken stems of cocoa very quickly hence the necessity for immediate attention. In the discussion "Corn or sweet potato, which is more profitable?" corn won by a large majority. Subject for next meeting : Corn and Peas versus Cane .This branch is satisfied that the district can tide over without applying for a loan. B. THOS. ATKINSON, Secretary.

NEW ROAD (Westmoreland).—The monthly meeting was held in the Schoolroom Aug. 31st., 1915. There was a fairly large attendance, including the Instructor, who had been around the people's fields seeing for himself their losses caused by the hurricane, and encouraging them to clean up and start a fresh. The yam crop in this district having been completely lost, the Instructor distributed quite a large quantity of pumpkin seeds and promised liberal supplies of sweet potato slips and cassava sticks—sweet and bitter—in order that the people might proceed at once with the planting out of quick increasing crops and be enabled to meet the hard times that are likely to follow in the wake of the hurricane. The Branch decided to obtain a supply of cocoa seedlings and cane tops of improved variety from the Montpelier Nursery for distribution among the members and (to show that they are by no means downhearted and have not allowed their own troubles to blind them to those of the Empires')have planned a patriotic meeting (to be held on a date to be named) for the purpose of raising subs' towards the Jamaica War Contingent Fund and to pledge their determination to carry through the war to a successful end. Mr. Briscoe was instructed to find out the cost of a good corn mill with a view to the purchase thereof by the Branch for use in the district. We chronicle with profound regret the death of J. A. S. Monaghan, Esq., one of our most esteemed members. The late gentleman took a keen and practical interest in agriculture *vide* his own fields, and his utterances at our meetings were invariably such as to command the attention of all. Sincerest sympathy is extended to his widow and children by the Branch. H. C. GOODIN, Secretary.

CAMBRIDGE (St. James.)—The meeting was held on the 4th September. Present: Messrs. Myers (President), Secretary, Treasurer, Mr. Briscoe (Instructor), and 11 other members. Mr. H. A. Stephenson was elected a member. Mr. Barclay's letter *re* Pease and Corn was read and discussed. Mr. Briscoe gave a clear and interesting account of the last half-yearly meeting of the Society and was heartily thanked for same. The Instructor expressed his sincere sympathy with the sufferers from the hurricane and encouraged them to try and repair their cultivations and put in catch crops, and also to pay as much attention as possible to the cultivation of cacao. R. M. ARNOLD, Secretary.

GLENGOFFE (St. Catherine.)—The regular monthly meeting was held September 7th, 1915. There were present: A. P. Hanson, Esq. (Instructor), about 25 members, the Reporting Secretary and the Secretary. Mr. Carter was welcomed as a visitor and Secretary from another Branch, and was given the privilege of the floor. As arising out of the minutes the two resolutions passed at the last meeting—one dealing with the training of Reformatory boys and the other dealing with the necessity for legislation for use of double-faced scales by shop-keepers, were again discussed. It was however decided that the former should be sent back to Mr. Barclay and to the member of the Legislative Council for the Parish; and after the discussion of the second, the following resolution was put to the meeting and carried *nem con*:—"Resolved that the Government be approached throught the Parent Society begging that the scales in common use be dispensed with, and double-faced scales be introduced instead." Messrs. C. Palmer, F. F. Greenwood, A. Rennalls and Dixon reported the fact that they are not in receipt of their JOURNALS. This fact brought on a discussion which concluded with the suggestion that the President should keep a receipt book from which to give the members receipts as they pay up their subscriptions. This was agreed to; the Secretary was asked to forward the names of all members who do not get their JOURNALS early enough. At the suggestion of Mr. J. Smith that there should be among the members of this Branch some kind of system for mutual pecuniary aid in the shape of either a Self-help Society an Agricultural Loan Bank, or some such system upon which the members could fall back for help especially after a visitation such as we had in the late storm of August 12th last., the following resolution was put and unanimously carried after a very useful discussion:—"Resolved that a Bank with a Savings Department be organised under the auspices of this Branch Society, and a Committee be appointed to meet on the 13th instant and to report to the next meeting on the subject:—The meeting then listened to a very instructive and helpful lecture from the Instructor A. P. Hanson, Esq., on the "Repairing of the Damage fields after the recent storm." Among some of his remarks were the following:—The storm could have been much worse, it was very much different from that of 1903—not being a cyclone. We have very many questions to face: Is it worth our while to cultivate bananas? We have scarcely had two good years in succession. If we repair damages as quickly as possible we may recover all our losses in one good year. Go through and prune; cut away wrapping leaves; clear away fallen trees; sink sword suckers; cut out weedy plants; plant straight rows through the fields which after a time will replace all the

old weak roots. We may reap many a good bunch within a year to come for home consumption if not for the market. The hurricane has set us an example, let us go through and prune. As to cocoa, Mr. Hanson said that the last crop was prolonged and bountiful; as a consequence this crop will be late—a very fortunate circumstance from the view point of the late storm; but strict attention to gormondisers should be kept up, that being a great source of danger to the coming crop. Advantage should be taken of the beautiful seasons following, to plant cocoes (taniæ) peas, corn sweet potatoes and other vegetables. He also advised the members to face the situation by cooperation. A vote of thanks to Mr. Hanson was moved. Mr. Henry, an "Authorized person" had no report to present which showed improvement in that direction in his district. It was agreed that the Society obtain a corn mill for not less than 40/- for the use of the Branch. The meeting then adjourned to the 1st Tuesday in October. J. R. BRYAN, Reporting Secretary.

SEAFIELD (St. Catherine.)—The meeting was held in the Seafield Schoolroom on the 7th September. There were present: Mr. A. S. Ross, President; the Instructor (H. L. Mossman, Esqr.), fifteen members and six visitors. Owing to the inclemency of the weather, the report of the half-yearly meeting held in Kingston in July could not be given until at this meeting. This was duly done, to the satisfaction of the Society by Mr. R. S. Nugent, the delegate. Owing to the recent hurricane the Instructor devoted his attention chiefly to the value of paying much attention to the keeping up of permanent crops; the planting of catch-crops; and the folly of putting all the eggs in one basket in the shape of the wholesale attention that is being given to cultivating bananas. He principally dealt with the cultivation of corn and sweet potatoes. Being in the district, from 12 o'clock in the day, the Instructor spent his time up to the meeting hour in practical demonstration; in finding out whether previous lessons given were being followed, and what was necessary to be done at once, so as to ameliorate existing conditions in the near future. An instructive lecture was given on "how to cultivate sweet potatoes," slips being brought into the room to show the way these should be cut, the part of the slip to be chosen and how these were to be placed in the ground. After the lecture several questions were asked and due explanations given. As a result of previous lectures a sample of corn grown by Mr. A. S. Ross was shown to all the members. This corn was obtained from Mr. Barclay. Mr. Ross planted a little over two quarts on about six square chains of land and reaped about twenty bushels. After some comments by the President and a hearty vote of thanks to the lecturer, the meeting came to a close. C. E. JOHNSON, Secretary.

DARLISTON (Westmoreland.)—A meeting was held in the St. John's Schoolroom on Friday, the 10th September, at 9 a.m. Present: J. W. Mennell, Esq., President; R. C. Somerville, Esq. (Instructor), eleven members and the Secretary. Mr. T. F. Ford was proposed and elected a new member. Mr. Somerville, on the President's behalf, said: "That the President went to Kingston with the view of attending the Half-Yearly General Meeting, but was disappointed and had, therefore, to return to Mr. Barclay, the Railway ticket sent him." The subject of Praedial Larceny was lengthily dealt with and Mr. H. C. Goodin would have first offence to be cut off. In answer to many questions asked the Instructor, satisfactory replies were given. He promised to get the baking irons by next meeting. A lengthy discussion on Cassava took place. The President said years ago Cassava was usually grown to a larger extent than now but perhaps this has been caused from the destructiveness of rats. The members present were told by the Instructor to read carefully an article written by Mr. Ogilvie in recent JOURNAL re pigs. It was moved and carried:—"That the Agricultural meeting of this branch be held every alternate month instead of monthly and that meetings be held alternately at Enfield and St. John's School houses." Meeting adjourned to Friday 12th November next, at 9 a.m., in the Enfield Schoolroon. J. H. HEDLEY, Secretary.

WALDENSIA (Trelawny).—The regular monthly meeting was held on the 10th September. President in the Chair, 11 members and one visitor present. After confirmation of the minutes of July meeting—no meeting held in August owing to the storm on the day fixed, and bad weather—the subject of the present situation of business owing to the failure of the banana trade, was lengthily discussed, as also the purchase of a Society's corn mill. It was decided to purchase one for thirty shillings (30/-), and the Secretary was authorized to draw the amount from the Treasurer and forward same to Mr. Barclay. The meeting discussed at length the subject of purchasing an Angora Ram, and regretted to be informed that even a half-bred one could not be obtained. Questions respecting the parties recommended as Authorized Persons for the District came up and their names were given in full, as:

Thomas Morgan Beckford, Waldensia, Falmouth; and Henry Philip James, Sherwood Content, Falmouth. The order of the meeting was suspended for a few minutes to give expression of sympathy for the loss the Society has sustained, in the death of one of its most interested members, the late Conway Whiting, Esq., of Falmouth. The President's query, viz., 'What is to be done to court the interest of some mebers and the community in general for the better working of the Society,' was discussed at length, and a few members thought that frequent visits to the fields of the peasants by the local Instructor might improve the present condition. The meeting here adjourned. N. A. LIVINGSTON, Secretary.

AVOCAT (Portland.)—The regular monthly meeting was held on the 11th September. Present: Ten members, some visitors, W. Cradwick, Esq., Instructor, Messrs. Gunter and Watts, Asst. Instructors, and the Secretary. The Secretary's report *re* Half-Yearly General Meeting was presented and discussed, and the following resolution was moved and seconded: "That the Parent Society be informed that in consequence of the late arrival of the passenger train in Kingston on the occasion of the last Half-Yearly General Meeting, this Branch considers that the loss of time and the expense incurred in sending a delegate not justified, as much as this Branch appreciates the fact of H.E. the Governor, taking the Chair, at the meeting and the evident deep interest in the proceedings, and this Branch respectfully asks that the Parent Society take steps to have arrangements made which will make it possible for the delegates from the northside branches to attend the meeting effectively in the future." Mr. Cradwick gave a few helpful hints on the cultivation of cocoa and corn, and favours the idea of this Branch securing a corn mill. Mr. Gunter arranged for demonstration at the Avocat Mission at 9 a.m. on the 12th prox. It was agreed that the Rev. Father Pohlman S.J., be asked to be President of the Branch. Meeting adjourned till the 9th prox. at 3 p.m. F. EMIL NESBITT, Secretary.

DUANVALE (Trelawny).—On the 13th of September, 1915, the regular monthly meeting was held. There were in attendance: T. James, Esq., 1st. V.P., in the Chair, Treasurer, Mrs. Ruth Clark, The Secretary, Messrs. E. A. Arnett, M. Rennie Agricultural Instructors and 22 other members and some visitors. Mr. Hawkes was unanimously elected another V.P. Mr. Hawkes accepted the position, and replied suitably. Mr. Arnett next gave a very instructive and interesting lecture touching on the following subjects:—The recent storm bananas and corn. He sympathized greatly with the banana growers, owing to the loss they have sustained through the storm, but was glad that they did not suffer as in other years past, and he hopes that by July next year, things will have righted themselves again. He urged the members to start right away to put their fields in order so that the bananas might soon look up again, and they sould plant various catch crops such as corn and peas even through the bananas where space and necessity will allow. One of the great mistakes of many agriculturists Mr. Arnett said, was that they depended too much on bananas alone. They should plant other crops also as corn. He said thhat every year we send at least £52,000 to American for corn. In order to prevent this we must plant plenty of corn, produce the best quality possible, and make proper arrangements to keep it. The corn should be so well cured that one bushel will weigh 60lbs. Mr. Arnett described how Napthalene may with safety be used as a very effective insecticide. A vote of thanks was given to Mr. Arnett for his very fine lecture. L. M. WWELSH, Secretary.

UPPER ST. JOHN'S (St. Catherine.)—A meeting was held on Tuesaay evening, 14th Septmber. There were present: Sixteen members, besides the President, Agricultural Instructor, and Secretary. Authorized Persons: Those present gave an account of their work, and no arrests were made by any which shews that Praedial Larceny is on the decrease in these parts. Mr. W. R. Wilks' application for an Authorized Person was considered. The meeting was of opinion that he should get a recommendation from some one who know him before his application can be accepted. A letter from the Mahoe Hill Branch setting forth its views as to what should be done by the Parent Society, so that the small settlers may be assured of

better reward for their labours by uniform prices, was considered. After some amount of discussion it was agreed on: That the members of this Branch are in deep sympathy with the points set out in the resolutions, but cannot see their way to agree with them in their entirety. The Instructor lecture on hill-side trenching was postponed for next meeting. He spoke to all present on the hurricane of the 13th and 14th August last, Loans, Planting of Sweet potatoes, pruning cocoa-trees, and banana. At the close of the Instructor's talk a warm discussion took place on loans. E. THOS. HAMILTON, Secretary.

ABOVE ROCKS (St. Catherine.)—The regular monthly meeting was held in this Schoolroom on Wednesday, the 8th September, at 6.30. Mr. Hanson was present. There were thirteen members in attendance. The minute books used at present being not satisfactory it is proposed that a suitable one be bought. The Secretary was advised to have the tools gathered from members who have borrowed them. Mr. William Dawkins proposed that a corn mill be bought for the use of the Society This proposal was seconded to be discussed at the next meeting. It was agreed on that the Authorized Persons be asked to be present at the next meeting. The Secretary was asked tow write Messrs. Cauley and McNiel also the Clerk of the Parochial Board regarding the Golden River Road. The Society proposed that the accounts be gone over and stated at the next meeting. Mr. Hnson pointed out the necessity for pruning hurricane damaged plants, especially banana and cocoa, so that the fields may be able to better repair themselves. The singing of the National Anthem brought the meeting to a close. FRED DENNIE, Secretary.

STURGE TOWN (St. Anns).—The regular monthly meeting was held at the 11th September, 1915, when 13 members and the Instructor, Mr. Arnett, were present. Mr. A. A. Ives presided. The shears and saw for pruning were shewn and lent to the members. The report on the guinea corn growing was favourable. The Instructor gave a most helpful lecture on corn growing, thus:—(a) Selection of Seeds; (b) caring the plant to get the best crop; (c) cross-bred corn; (d) how to keep corn for months from weevils, etc. Spraying was the next feature of the evening. The demonstration was highly appreciated. The black ants were shewn to be more 'a friend' than an 'an enemy.' 18 more rat tails were brought in—total to date, 111. Authorized persons—All correct. S. JAMRS PALMER, Secretary.

MT. CHARLES (St. Andrew.)—The monthly meeting was held on the 14th September. Mr. R. C. Francis, V.P., presided. The Instructor and eleven members, also several visitors. Mr. H. Rufus was elected a member. Mr. Francis gave an exhaustive report of the Half-Yearly General Meeting of July last, for which he was thanked. A proposal to purchase a corn mill for use of members fell through, as it was not easy to find a centre to suit many members. Members present agreed to combine in groups and purchase mills. Mr. Hanson gave an inspiring address on conditions as they are at present, advising how to deal with injured plants. The following resolution was carried:—"This being one of the districts which sustained greatest damage by the recent hurricane, we, the members of the Mt. Charles Branch would welcome any assistance from the Government in the form of a loan or otherwise for the restoration of our damaged fields." The Instructor was thanked for his address and the meeting adjourned for the second Thursday in October. W. R. SMELLIE, Secretary.

ST. JOHN'S (St. Catherine.)—A regular meeting was held on the 16th September, at Kitson Town Schoolroom at 7 p.m. Among those present were: Messrs. D. V. Anderson, J. A. Beckford, the Secretary, and Mrs. S. H. Banton. The Secretary informed the meeting that the main object why the members had been summoned was to deal with the correspondence relative to the appointment of "Authorized Persons" which he had been receiving from the Secretary of the Parent Society. The last letter was read. The Secretary was authorized to state that the members

of this Branch do not know of any one by the name mentioned in paragraph I. At any rate they are quite certain that all those that they had nominated are members and no member bears the name of No. 1 as had been stated by the Police *vide* letter No. 2672. A lively discussion on the duties of Authorized Persons took place Mr. Banton said that it was absolutely necessary for all those nominated and subsequently appointed to give at each meeting a report of work done during the previous month. Mr. Maxwell said he had been going out at nights occasionally and although he had not caught any one still his visits prevented many from taking their neighbour's goods. S. A. BANTON, Secretary.

RIO MINHO (Clarendon.)—The regular monthly meeting was held in the Park Hall Government Schoolroom on Monday, the 20th September, at 5.30 p.m. The following were present: Messrs. J. J. Wright, President, S. A. Schliefer, Instructor, fifteen other members and two visitors. The President mentioned with much feeling the sad death of the Rev. C. H. Baker of Brixton Hill. It was decided to send not less than fifty walking sticks from the Branch to the crippled soldiers; these sticks to be sent to Mr. Barclay of the J.A.S., not later than the 1st October. The Instructor explained the "Cooperative Scheme" launched by the Frankfield Branch, the objects of which are to encourage and insure the better curing of Produce so as to get the best-prices available; and obtain also the profits that the "middlemen" make. Both the President and the Secretary spoke in favour of the scheme, and further discussion on the subject was left over for the next meeting, when the rules and regulations will be submitted. During the day, the Instructor visited the Holding of Mr. Jas. S. Cameron and demonstrated "Cocoa Pruning." He was pleased with the Holding, which promises to yield the owner a very good Xmas crop. JAS. S. CAMERON, Secretary.

PEDRO (St. Anns.)—The monthly meeting was held on Monday evening, the 20th September. There were a large turn out of members and visitors, including the Instructor, Mr. Arnett; Mr. Gilbert Brown, M.P.B., and Mr. Archie Brown, of Pedro Farm. Mr. M. A. Harvey presided. The Society is desirous of owning an Anglo-Nubian ram, and is taking steps leading to the possession of one from Claremont. Ernest Mill lead in a debate 'Banana *vs.* Canes.' His arguments in support of banana were so convincing that Mr. Wm. Kidd, who stood for Canes, gave in before venturing very far. Votes showed 14 for Bananas, 7 for Canes. The debaters were confined to the district, and so could not argue as freely as they otherwise would. However, the restriction was necessary. Mr. Thos. Walker, of York, interested the meeting on Yellow Yam cultivation. He is a practical man and his views were shared by all those who have attmpted to grow that variety of yams in these districts. Certain conditions make yellow yams the most difficult to cultivate here. The number of banks planted gets less every year. He suggests planting not later than March or April. Don't cover the heads deeply; never let the heads be covered with soil in colder months, as soon as spring starts cut the vines, however, green. Don't encourage springback yams. Mr. Gilhert Brown then exhibited some specimens of corn that he had grown from the Agricultural Society seed-corn and encouraged growers to get that variety. A supply of seeds can now be procured from him. Mr. Arnett supported Mr. Brown's views on corn-growing and expressed it as his opinion that corn-growing would have to be more seriously considered by the peasants of these dry localities in future. There was no necessity for at least £40 per month to be sent out of St. Ann by P.W.D. for corn. At his next visit he hopes to give more hints about corn-growing. Eight new members were enlisted and an agenda for the 18th prox. arranged, including JOURNAL Reading, and debate: Cows *vs.* Horse. MILFORD A. HARVEY, Secretary.